MX-25-708

AFATDS Release Notes
For
AFATDS (9.2.Z SP1)
and
EMT Client (3.1.Z MC1)
Versions 6.4.0.0

04 Oct 2005

Contract No. DAAB07-99-C-E003
CDRL Sequence No. F602

Prepared for:
COMMANDER US ARMY CECOM
Fort Monmouth, NJ 07703-5008

Prepared by:
Raytheon Company
1010 Production Road
Fort Wayne, IN 46808-4106

MX-25-708

AFATDS Release Notes for AFATDS (9.2.Z SP1) and EMT Client (3.1.Z MC1)
Version 6.4.0.0

SUMMARY OF CHANGES

The following is a summary of the changes that are unique to this version.

Para.	Title	Change
1.0	AFATDS 9.2.Z SP1 & 3.1.Z MC1 OVERVIEW	Update to reflect "What New"
2.1	Unit Status and Situational Awareness Improvements	Update to item 5 to add NOTE.
2.2	Communications Enhancements	No Change.
2.3	New Re-supply Management Capabilities	No Change.
2.4	Targeting Updates	Update to item 2 for readability.
2.5	Weapon & Munitions Management	No Change.
2.6	Tactical and Technical Fire Control Improvements	No Change.
2.7	Window Navigation and Human Interface	No Change.
3.1	AFATDS Problems Corrected	Updated item 130 for readability. Added items 131 through 134.
3.2	EMT Problems Corrected	No Change.
4.0	AFATDS Known Problems	Added items 14 and 15.
4.1	AFATDS Known Problems with Workarounds	Deleted item 70. Bolded titles for items 108 through 123 (no technical changes). Added items 124 through 126.
4.2	Known Problems with Effects Management Tool / FSCOORD Sync Tool (AFATDS Client)	No Change.
5.0	Operator Notes	Updated items 3, 47, and 54. Added NOTE to end of item 68. Updated item 77 for readability. Added items 79 through 83.
6.0	Fire Direction Troubleshooting Guide	No Change.
8.0	AFATDS/EMT WINDOWS FOR COMMON OPERATIONAL PICTURE (COP)	Corrected spelling of OPFACs (was OPFACSs).
8.1	Add the Capability to Request PASS/FBCB2 Data	No Change.
8.3	Add the Capability to Request Track Data from Another AFATDS OPFAC	No Change.
9.0	Instruction for Installing and Configuring EMT-FST	No Change.
9.1	Preinstall Notes for Future EMT/FST Software Installs	No Change.
9.3	Installing and Configuring EMT-FST	Added EMT to title. Added new info for EMT "Select install drive" option.
10	Service Based Architecture (SBA) Software Notes	Update to item 8.
11	3.1.Z MC1/C2PC6.1.1P1 USER NOTES	Updated title.
11.1	Installation of C2PC Software	Added completely new procedural steps.

Para.	Title	Change
11.2	Starting EMT	No Change.
11.3	Operations	Added new sub-items "g." (for Uninstall) and "h." (for Known problem).

MX-25-708

AFATDS Release Notes for AFATDS (9.2.Z SP1) and EMT Client (3.1.Z MC1)
Version 6.4.0.0

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

MX-25-708

AFATDS Release Notes for AFATDS (9.2.Z SP1) and EMT Client (3.1.Z MC1)
Version 6.4.0.0

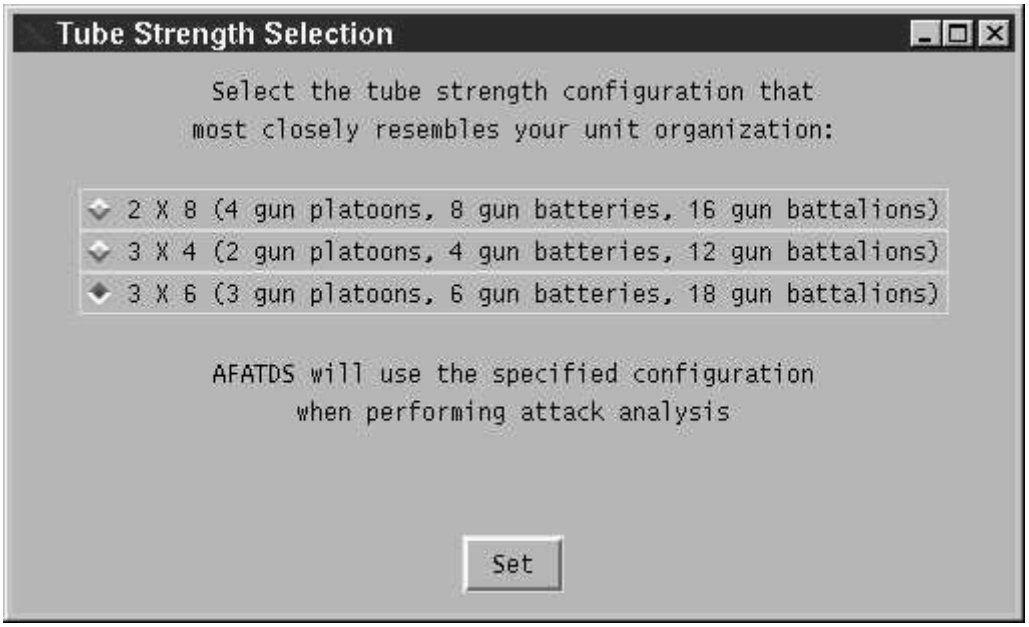
1.0 AFATDS 9.2.Z SP1 & 3.1.Z MC1 OVERVIEW

The AFATDS 9.2.Z SP1 and 3.1.Z MC1 products are the result of continued AFATDS development, including the addition of new and enhanced functionality. This document summarizes new features, known problems, and operator notes for this version of software. Known problems are outlined in detail in Sections 3.0 and 4.0. The Known Problems Section also lists "work arounds" for those problems that have them.

What's New in 9.2Z Service Pack 1 and 3.1.Z MC1.

Service Pack 1 to AFATDS 9.2.Z and EMT 64_MC1 were developed to provide essential new functions and to address issues reported from field users. Additions and changes included in these new software versions are described below:

1. Variable Tube Strengths: When conducting attack analysis for cannon weapons, AFATDS assumes a "standard" tube strength for cannon units of various echelons. For example, AFATDS 6.3.2 and 6.4 software versions assumed that platoons had 3 guns, batteries 6, and battalions 18. SP1 provides the user the capability to select from three different tube strength options:



This window appears early in AFATDS startup, just before the Multi-Workstation Name window. The user should select the organization that best reflects cannon artillery organization in his/her area. Units that have converted to the Army's new modular structure should select the "2 x 8" option. Units still organized with 6 gun batteries should select the "3 x 6" setting. The configuration setting is unimportant to units that have little to do with cannon fires (e.g. MLRS units, BCDs). But since task organizations and missions may change with little or no warning, and an MLRS battalion headquarters

may suddenly find itself in charge of a cannon battery, units should select the configuration that most closely reflects the organization of cannon units in their area of operations. (If in doubt, stick with the "3 x 6" default setting.)

AFATDS will generate viable cannon attack options regardless of the configuration selected. Attack options will be "tailored" for units with the prescribed organization, however. For example, if the "2 x 8" configuration is selected, and AFATDS processes a "battery size" target (i.e. the attack method for the target prescribes a battery echelon fire unit), AFATDS will try to build an attack option with 8 guns. If 8 capable guns are not available, AFATDS would still consider a 7 or 6 gun attack option acceptable. If 6 capable weapons cannot be found to engage the target, however, AFATDS will return a "red gumball" (i.e. incapable) result for attack by cannons. If AFATDS processes this same target, but is now using the "3 x 4" configuration, then it will generate an attack option with 4 guns, with 3 as the minimum acceptable weapon strength.

2. Security and Reliability Enhancements: SP1 incorporates several changes that make AFATDS more resistant to network interference, and reduce the chances of system failure.

3. High Priority Bug Fixes: SP1 corrects critical software errors recently discovered in the AFATDS 6.4 product. These fixes are described in paragraph 3.1, items 131 thru 134.

4. EMT Limited/Protected Area Import Problem: Importing a new Limited/Protected Area List to EMT when an L/PAL was already on file did not work properly in the EMT 3.1.Z software version. New L/PAL entries updated the list properly, but updates to existing entries on the L/PAL were ignored. 3.1.Z MC1 now has a "delete all" feature that allows the user to delete the entire L/PAL. When a new L/PAL is received, the existing one should be deleted before importing the new one.

5. EMT Version Compatibility with C2PC and AFATDS: 3.1.Z MC1 is designed to be compatible with the latest C2PC software version (C2PC6.1.1.P1). Earlier versions of C2PC software will not work with 3.1.Z MC1. Version 3.1.Z MC1 can also be run in EMT mode, using the JMTK map. Version 3.1.Z MC1 is the only EMT version that should be used with AFATDS 9.2.Z SP1.

2.0 NEW FUNCTIONALITY

1. Range Safety Box. A new geometry type "Range Safety box" has been added to AFATDS. The intent of these geometries is to represent the impact area (including safety buffers) when you are performing service practice. When one or more range safety area are effective (i.e., the current time is within the effective – expiration time of the safety box) a target must plot within an effective safety box or you will get an incapable option. A new column has been added to the "Attack Options" tab on the intervention point. This column will be red (incapable) if one or more safety boxes are effective and the target does not plot in at least one of the effective safety boxes. Currently there is no label on this Geometry.
2. NET/NLT Improvements. Improved Mission scheduling logic for cannon, mortar, and naval gunfire support systems for missions with a specified NET to defer transmission of the fire order until the prescribed NET time. Earlier AFATDS versions would send the mission to the weapon(s) (Paladin, Ship, GDU or Mortar) about 7 – 10 minutes prior to the NET. AFATDS will now monitor active missions that have been transmitted to weapons to determine if the NLT time (if specified) has been exceeded. If it has, AFATDS will automatically transmit an EOM to the weapon.
3. Attack option Ranking now considers "Response Time". In the Mission preferences window (Attack option ranking" section) the operator can specify the importance of "Unit Response Time" when AFATDS is deciding which of several options should be the recommended option. When this criteria is ranked 1st AFATDS will attempt to select the FS System (Air, Naval, Cannon etc.) and Fire Unit that can get rounds on the way to the target in shortest possible time. For example, moving units have a response time that is longer than a "Stationary - Ready" unit. AFATDS would prefer the non-moving unit in this case.
4. ASR Target Number. When AFATDS sends an Air Support Request (ASR) to TBMCS, the "Number of Targets Described" field in the ASR message will now equal the "Target Strength" in the AFATDS mission data.
5. Immediate Air Mission Completion. AFATDS will now accept the Mission Report (MISREP) message from TBMCS on an immediate air mission and change the status of the air mission to "Complete". In order for this to function properly, the TBMCS must send a Request Status Task (REQSTATASK) message approving the initial Immediate ASR to AFATDS when the initial ASR is submitted (the REQSTATAASK provides the Approved Air Mission number that will later be provided in the MISREP).

2.1 Unit Status and Situational Awareness Improvements

1. Target Area Hazard (TAH) Improvements. AFATDS now calculates additional TAHs along the missile flight path at locations where the ATACMS (APAM and PSAM) missile is expected to drop below the specified altitude ("ZALT" in the LMM manager window). Previous AFATDS versions only placed TAH geometry at the target location.

2. Expanded Geometry. AFATDS now allows up to 300 points for line or irregular area geometries. The overall size or area for a geometry is increased. Finally, a "get points from map" feature has been added that allows the operator to easily enter the geometry points by simply clicking on the map (no "cut & paste" required). Maximum distance between consecutive points in the geometry is now 1000km. Earlier AFATDS versions allowed a maximum of 30 points. Note that if the operator attempts to transmit a geometry with more points than the destination system supports then AFATDS will fail the transmission and alert the operator.
3. New Geometry Alert. Currently, when AFATDS receives an individual geometry and the name for that geometry is already in use, then AFATDS will simply update the existing geometry with the new data (geometry type, location etc.). This can result in the geometry type changing (e.g. "Assault Objective – Bravo" would become "Assembly Area – Bravo"). The improvement here is that AFATDS will now alert the operator that a duplicate geometry name was received (the database will still be updated automatically). Receipt of "bulk" geometry (from a "transfer current") will not trigger this alert.
4. FA CP composite range Capability display. AFATDS can now show a range circle for a selected FA CP that commands Fire Units. The range fan will be a circle located at the center of mass of the CP's subordinate Fire Units. The Radius of the circle will equal the maximum range of the subordinate fire units.
5. Allow Fire Requests & unit data to be processed even if sending unit is not in communications or current. This new feature will allow AFATDS to accept missions or unit position reports from JVMF systems (JVMF or JVMFR5) that are not in the current situation. If the sending unit is not in the AFATDS current (but is in the JMUL) the operator is alerted when the message is received and given the option to have the unit added to communications and the current situation – the message can then be processed. Previous versions of AFATDS would simply discard the message. NOTE: This feature isn't working fully in this release. See paragraph 5.0, item 54 for more details.
6. Ammunition Tab for Cannon units. The ammunition inventory tab for cannon units has been redesigned to allow for easy entry of ammo data at the bottom of the list. This eliminated the "old" (ammo model & lot) window that was previously used.
7. Ammunition Threshold data. The threshold criteria are now all consolidated on one tab in the unit data. You may still set criteria for each munition category. The operator may also set threshold data for two specific munition models. Tripping a threshold will prompt the operator to initiate re-supply activities (see "Re-supply Management Capabilities" below).
8. Logistic Units. AFATDS now supports "Logistic" unit types. These unit types are useful when you are tracking individual ammunition re-supply vehicles (such as a FASV). When you create a new unit the "Logistic" unit type will be one of your options for the type of unit to create.

9. PASS (Publish and Subscribe Service). The PASS is a new means of supporting horizontal information exchange with other ABCS 6.4.0 systems. The PASS provides Situational Awareness (SA) data, which AFATDS can store, display, and distribute as part of the Common Operational Picture (COP). AFATDS also publishes data to the PASS. Specifically, AFATDS will publish information on fire support units, fire support coordinating measures, and targets. The SA data received by AFATDS will come in the form of "tracks" (friendly and enemy unit information) and battlefield geometry.
10. AOI (Area Of Interest). AFATDS creates an AOI for each item published to the PASS server by AFATDS consisting of a rectangle surrounding the published item. The AFATDS operator can create an AOI to be used when subscribing to topics from the PASS Server. A single AOI will be used for all subscriptions. This AOI will be associated with the windows used for setting up the PASS interface, displayed on the map, and stored in the database.
11. EMT Protected Area Checks. In previous versions, when EMT checked targets against protected areas and "no strike" targets, it did not consider target size. Rather, it performed a simple "point in area" check. Now EMT considers target area when checking targets against protected areas.
12. USAS Geometries. Additional Map Symbols and Labels: AFATDS now supports additional geometry types listed in the United Specification for ABCS 5.4 Symbology v1.1.1 (USAS). In addition, for all AFATDS geometry types, the user can now specify additional map symbol modifiers. Select the MORE button on the AFATDS Geometry Information Window. This opens a new window that provides the capability to edit modifier data. Also, the user can indicate which modifiers should be displayed with each geometry type (User Preferences => Geometry => Modifiers).
13. The latest version of JMTK 4.5.2.0P8 has been installed. This version enables the LLTR, SAAFR, and Air Corridors to draw correctly on the map.

2.2 Communications Enhancements

1. 188-220C Network. AFATDS 6.4.0 adds support for the 188-220C network. Like 188-220A (which has been in AFATDS for several years), 220C is an IP based network. Most systems (like the Naval Fires Control System – NFCS, Tactical Exploitation System – TES, Paladin, MLRS and new observer devices) are moving to this new network standard. 220C supports wire, HF, SATCOM and SINCGARS communications.

2. JVMF Reissue 5 message specification. AFATDS now supports the JVMF Reissue5 message specification. This is the latest message standard for new Joint systems. A new device type (JVMFR5") has been added to support identification of these systems in the AFATDS Joint Master Unit List (JMUL). The JVMF Reissue3 specification ("JVMF" Device type) and the "Package 11" family of systems will still be supported so that other systems that have not yet implemented the latest standard can still talk to AFATDS. Note that the VMF R5 devices use the 47001C message header.
3. USMTF04 Message Specification. AFATDS now supports the 2004 United States Message Text Format (USMTF04) message specification. This is the latest message standard for Army C2 Systems (MCS, ASAS etc.). A new device type ("USMTF04") has been added to support identification of these systems in the AFATDS JMUL. Note that the USMTF04 devices use the 47001C message header. The 2000 USMTF specification ("USMTF00" Device type) and the 1993 USMTF specification ("ASAS", "MCS", "CSSCS" and "FAADC3" Device types) will still be supported so that other systems that have not yet implemented the latest standard can still talk to AFATDS. As a reminder, the USMTF 1993 devices use the send mail (LAN only) interface with no header while the USMTF00 devices use the 47001B header.
4. Naval Fire Control System (NFCS) interface updates. AFATDS now has a defined interface to the NFCS system. NFCS is the C2 system aboard ships that accept AFATDS fire requests. The system name for this device will be "NFCS, while the end system type will be "47001B/VMF R3".
5. Tactical Exploitation System (TES) interface. AFATDS now supports a formal interface with the TES (a sensor system supporting the joint forces). TES collects & filters intelligence data and submits Intelligence reports (ATIs) to AFATDS for possible attack. The AFATDS operator can establish search criteria for the TES by using the "Search Criteria" under the "Targets" menu item.
6. ASCA interface. AFATDS has updated its message interface with the ASCA systems (formally known as "NATO" systems) to the CTIDP 04 standard. The "old" device types of "Atlas", "Bates" and "Adler" have been removed and a single device type ("ASCA") is now used when inter-operating with the United Kingdom, France, Germany or Italy C2 systems.
7. Support Check-fire/ceaseload by Fire Plan in ASCA interface. The ASCA systems can send a message ("Check fire by Fire Plan XXX") to AFATDS. AFATDS 6.4 has been updated to accept this message and automatically checkfire each target in the referenced fire plan. Note that in order for AFATDS to checkfire these targets the fire plan must have been previously executed at the AFATDS Node that received the Checkfire.
8. HF Radios. AFATDS now supports the Navy & USMC HFRG/ANDVT & URC-109/ANDVT HF radios on 188-220C networks and 188-220A networks. Up to 4 subscribers may be supported on the HF nets.

9. SATCOM Radios. AFATDS will support the PSC-5 SATCOM radio in the "Non-DAMA" mode. To configure a network for this type of radio select "SATCOM" as the Radio type. 5 KHz and 25 KHz interval settings are supported.
10. Launcher Communications. Now that the MLRS launchers are capable of using the INC radio, AFATDS supports an "auto-relay" capability over this type of network. If a message is unsuccessful on a network, the sending station will automatically try to route the message through another node to get it to the destination. The operator does not have to set up this feature; it is simply a capability of the 188-220 INC networks.
11. View LDIF PDF File. A menu selection to view the LDIF PDF file has been added. This will be under the AFATDS operator menus located at <AFATDS Functions><AFATDS Operator Documentation><View LDIF>. This will display the LDIF pdf file.
12. Change Workstation Hostname: A menu selection item is now available to users with SYSADMIN privileges to change the workstation hostname. Log in as the SYSADMIN user and select START >> SETTING >> CHANGE HOSTNAME.

2.3 New Re-supply Management Capabilities

1. Re-supply Planning. AFATDS can now Generate Move & re-supply orders for Cannon units & Re-supply units. To use this capability the operator pre-plans resupply locations and resupply units (basically associating a re-supplying unit, a re-supply location, and a Paladin).
2. Re-supply Execution. AFATDS now automatically monitors on-hand vs. authorized munitions for Cannon Fire units (like a Paladin). When an ammunition update is received from a Paladin and the ammo on hand has reached a critical level (The "Critical level" is specified by the operator in the Paladin's unit data), AFATDS will automatically generate a re-supply recommendation for operator approval. Note that the Paladin System is currently not capable of accepting a "Resupply order" – so the operator may want to send a PTM to the Paladin when using AFATDS re-supply monitoring functions.
3. Re-supply Execution. The Operator can also direct re-supply at any time. Re-supply instructions are now available in AFATDS for Single weapon cannon fire units (like Paladin).

2.4 Targeting Updates

1. Q47 Firefinder. An interface to the new Q47 Fire Finder has been added (this uses the "JVMFR5" device type). The RDO capability in AFATDS has also been updated to support up to 30 Firefinder Zones since the new Q47 supports as many as 30 Zones.

2. Target Updates. AFATDS has been modified to Accept Target updates from the Firefinder Radar. If the Radar sends an updated target location (either via a CFF or ATI) for a target, AFATDS will automatically update the target data based on the latest information from the Radar.
3. Targeting with the Tactical Exploitation System (TES). TES is a sensor system that may communicate directly with AFATDS via the USMTF00/47001B interface (over LAN, wire or radio).
4. Search Criteria for TES. AFATDS now provides search criteria for target data specific to the capabilities of the TES. If you want to establish search criteria for the TES, open the Target Criteria window under the "Targets" menu item. When the TES locates a target meeting your search criteria, it will report it to your OPFAC as an ATI.
5. BDA from TES. TES will report BDA (if available) on targets that AFATDS sends to TES as MFRs.
6. Expanded target search capability. The target search window has been enhanced to behave more like a "windows" display. Also, "Target element type" (T72, BMP etc.) has been added to the criteria upon which you can search.

2.5 Weapon & Munitions Management

1. New Mortar systems (M224 60mm & M120/m121 with sub-caliber device) and associated ammunition models have been added. Obsolete weapon models have been removed.
2. New Cannon Munitions added. (M4A1 whitebag) and 105mm RAP (M927) have been added.
3. New MVV data. AFATDS now provides for “basic” and “enhanced” MVV management. Enhanced MVV management divides MVV into propellant performance (MVV_Lot) and tube wear (MVV_Wear) components. Users who control the new “Software Block I” Paladins (i.e., Paladins that use the VMF R5 message interface) should select Enhanced MVV management for their Paladin units. All other users should select Basic MVV management. This selection is found on the Detailed Unit Data tab for cannon units.
4. NATO Munitions. AFATDS adds the "Country of Origin" indicator for projectiles and fuzes. Many new NATO ammunition models have also been added for Cannon units.
5. M777A2 Cannon. The M777A2 represents the "Towed Artillery Digitization" (TAD) cannon upgrade that allows the M777 lightweight towed 155mm to communicate with AFATDS via JVMF messages. M777A2 cannon units are managed like Paladins. A M777A2 cannon should be built as an individual fire unit (authorized & on-hand strength of one). M777A2 cannons are managed by the Battery (built as an "Other" unit type with a role of "FA CP") as individual weapons. Use the Automated Weapon Status Monitor Window to track M777A2 missions and status (NOT the Weapon Status GDU Window).

6. JTJ Munition. JTJ is a GPS guided unitary warhead MLRS Rocket. Like the JEG DPICM munition added in AFATDS 6.3.2, JTJ is very accurate. This new munition is referred to as "MLRS HE Guided". You will find this new munition listed in guidances and munition selection windows (such as, "Initiate fire mission"). The projectile nomenclature is now shown as M31, rather than MJTJ. AFATDS will NOT select the JTJ munition for firing unless the operator/requestor specifies it in the fire request, or the munition is specified for the target type under analysis in the Rocket Missile Attack Methods guidance.
7. ERGM. The Extended Range Guided Munition (ERGM) is a Naval delivered GPS guided projectile. While the "ERGM" selection was listed in AFATDS 6.3.2 as a munition, AFATDS 6.4.0 adds the Loadable Munition Model (LMM) and Effects data so that a much more detailed analysis of the Ship's capability can be performed (including 3D airspace checks based on the ERGM trajectory determined by the LMM).

2.6 Tactical and Technical Fire Control Improvements

1. "Moving" launchers may be considered capable. AFATDS now allows MLRS launchers with an Operational status of "moving" to be considered capable of engaging a given target (assuming that they have the right type & quantity of ammunition available). Previous versions of AFATDS prohibited "Moving" launchers from being considered capable.
2. AFATDS will display solutions for "Combat" or "Emergency" ballistic solutions. Previous AFATDS versions prevented the display of a capable option if the ballistic calculations resulted in a solution that was categorized as "Combat" or "Emergency". AFATDS will now display these solutions to the operator. Fire commands for "Combat" or "Emergency" will not be sent to the weapons without operator approval.
3. Use Gunner's Quadrant. AFATDS will now send "Use Gunners Quadrant" command with Fire commands sent to GDUs or Paladins when the mission is "danger close" or "destruction". AFATDS will also allow the operator to specify the "Use Gunners Quadrant" command when initiating a fire mission. QE will be sent in tenths of mils to Paladins and will display in tenths of mils in the fire commands window.
4. Simo Missions. AFATDS now supports "Simo" missions with GDU weapons. "Mission number" has been added to the GDU monitor and will also be sent to the GDU devices. This allows the GDU operator to distinguish between fire commands for different missions that are currently ongoing. The FDC operator can still push ("send" option) fire commands for additional missions to the GDUs even when they already have a mission. Fire commands for any mission that were previously sent to a GDU will now be automatically sent (earlier AFATDS versions required the operator to "push" fire commands for the 2nd mission when an adjust was received). AFATDS will support up to 9 missions active at the GDUs at any one time.

5. Record of Fire. AFATDS now provides capability to automatically generate a record of fire for each fire mission fired by "non-Paladin" weapons. AFATDS will also accept Record of Fire information (digitally) from individual Paladin Howitzers and will be capable of requesting ROF data from a paladin via the "Request status" function on the Paladin weapon monitor. AFATDS will maintain a Record of Fire file that the operator can manage (Delete, Print, Archive and filter). At least 150 ROF can be stored in AFATDS.
6. Quick Smoke.
   a. AFATDS now automates the management of the Quick Smoke mission (two new mission types "Quick Smoke" and "Quick Smoke Adjust" have been added to the Initiate fire mission window). AFATDS computes the buildup and sustaining volume of fire and interval between rounds and will manage the sending of fire commands to GDU equipped weapons. Paladin weapons will be provided fire commands for the "initial buildup volley", and then AMC fire commands for the "sustaining volleys" portion of the mission. If more than one sustaining volley must be fired, the commands will include an "interval between rounds" which the Paladin will use to control the firing of the remaining smoke rounds.
   b. Pasquill Data. A new window has been added under the "MET" menu item to support input of general weather information required to perform quick smoke calculations. You may select the "use MET data" checkbox to populate several fields on Pasquill Data window if desired. At a minimum, you must make an entry in the Relative Humidity field before AFATDS will generate any quick smoke solutions.
7. Schedule of Fires. AFATDS now uses the "sustained rate of fire" for all schedule of fires calculations. Earlier versions of AFATDS used a "Max rate of fire" for weapons during their first three minutes of firing time in the schedule. This sometimes resulted in fire units being assigned targets that they could not engage when the fire plan was executed (because capability checks for unit response time are based on the sustained rate of fire). This change synchronizes the logic that AFATDS uses for schedules of fires and attack analysis.
8. MLRS Launcher Missions. AFATDS now allows 1 priority ("immediate") and 11 normal ("as acquired") active missions to be sent to an M270A1 launcher. M270 launcher models still support only 1 priority and 2 normal missions.
9. FASCAM Missions. AFATDS will allow a mixed minefield mission to be initiated (operator specifies FASCAM munition types in FFE1 & FFE2). AFATDS will default the angle of fire to "High" for mixed minefields so that the same aimpoints are used for the FFE1 & FFE2 phases. Only high angle fire may be used with mixed minefield missions.

10. Continuous Illumination Missions. Execution of the continuous illumination mission is now "semi-automated" at GDU cannon units. If a continuous illumination mission is received, AFATDS automatically generates fire commands with an "at my command" method of control. The operator orders "fire" once the gun(s) to fire shell Illum report "ready". After the initial fire command and Shot from the gun(s), AFATDS generates another set of AMC fire cmds (1 round), sends them to the gun(s), and starts a countdown timer. The time interval is set to the value given in the Time Between Illum Rounds field on the Munitions Tab of the Initiate Fire Mission window (default is 60 seconds). When the gun(s) report Shot, the cycle automatically repeats. This process continues until the end of mission command is processed. If initiating the mission from the keyboard, be sure to specify shell Illum in the FFE1 field of the munitions tab.

2.7 Window Navigation and Human Interface

1. Single Menu Bar. The Main, Current and Plan menu bars have been consolidated into one menu bar (to increase display space for the map). Menu items are grayed out depending on the context you are viewing (for example, when you are viewing the current situation the "Planning" menu item is grayed out). Plans are still opened from the "Situations: menu item and you may toggle between plan and current by simply clicking on the appropriate tab in the map window.
2. New Icons & Functions available on the tool bar. The consolidated menu bar also now has a consolidated tool bar directly below. New Icons added to the tool bar include: Create Free text message, Checkfiring, Cancel Checkfiring, Subordinate unit monitor, Active mission status monitor and Preferences tool.
3. Free Text icon. This opens the CMP Free Text window.
4. Check firing & Cancel Check firing. These open the appropriate windows that used to be accessible from the menu item.
5. Subordinate unit Monitor. This window displays a list of units subordinate to your OPFAC. The window displays key information about your subordinates including Operational Status, Unit type, and supply status. You may navigate ("drill down") on any unit selected in this list to view detailed unit information.
6. Mission Status Monitor. This window provides a "heads up" display of all active missions at your OPFAC. The window will automatically refresh when a mission status changes (e.g. "Rounds complete", Denied" etc.). Details about any mission in the list are provided in the bottom portion of the window.

7. Display Preferences. This window allows you to tailor the map display to your needs. It supports set up of display preferences for units, geometries and targets. You can change color schemes and line boldness based on the type of geometry (e.g. you may change the color of FSCL geometries to purple and the line thickness to "bold"). You may also change the Color and icon size for different unit types & echelons (for example, radar units could be shown in green color with a "large" icon, or Brigade size units could be displayed as small black icons). Targets can also be displayed differently based on target state (active, inactive etc.) and target type (e.g. display as Fire Support targets in red color).
8. Symbol Selection on the Map.
   a. AFATDS now will display a selection list when you click on the map in the vicinity of two or more symbols. The purpose of this window is to allow you to select which specific item you wish to highlight.
   b. Symbol Drag. AFATDS now has a feature to enable-disable the dragging of unit icons on the map. When the feature is disabled you cannot select a unit and drag it. This is a safety feature implemented to prevent the operator from inadvertently moving a unit while clicking on the map. AFATDS software is delivered with drag symbol "disabled". If you want to enable this capability go to the "Map" menu item icon the AFATDS menu and select the Drag symbol option.
9. Intervention point Improvements.
   a. List of Missions pending intervention. AFATDS now displays all missions waiting for intervention at the top of the intervention point itself. When you click on the IP icon in the tool bar the IP will open (with the data for the first mission displayed) and the top part of the window will list all missions waiting for operator action. The list may be sorted by clicking on the column header. You may navigate between missions simply by clicking on the list.
   b. Adjusting weapon display on IP – tech solution. A section has been added to the Cannon Technical Solution tab of the intervention point. This new section shows specific data for the Adjusting weapon. Previous AFATDS versions contained the adjusting weapon's data within the FFE1 section.
   c. Add "Adjust"/ "initial CFF" indicator to Intervention point (allows operator to discriminate between initial CFF & subs adjust). The window containing the list of missions awaiting intervention (this is the window that opens up when there is more than 1 mission at intervention) now identifies missions based on whether the message requiring intervention was an Adjustment on an already active mission or a new mission. The Intervention point widow itself also contains an indication of whether the mission being viewed is an adjustment or the initial Call for Fire.

d. Add TOT & NLT time to intervention point list. The window containing the list of missions awaiting intervention (this is the window that opens up when there is more than one mission at intervention) now allows operator to see the TOT times (if applicable) for each mission waiting for the operator to action. This feature allows the operator to better decide which mission to action next. For example, when a Fire Plan is executed (with intervention on) many missions will queue up at the IP. The operator can now tell which mission he should action first (the earliest TOT).

10. Communications Windows.

a. Add Communications workspace – This workspace features a "Drag and Drop" capability that allows the operator to move networks into a communications configuration. All Communications data is now viewable on a single window.

b. Improved communications windows - AFATDS will default network parameters and addressing to facilitate communications set-up & reduce chance of operator error. Several "Pre-setup" networks have been added. This allows the operator to select a "Standard" 188-220C network (e.g. Brigade Ops-Fire") and AFATDS will default all pertinent data (address, station ranking etc.).

11. Find Symbol. The Find Symbol menu item now provides access to the Target, unit and geometry workspaces. Each of these workspaces contains a "find on map" capability (this is a menu item or the tool button with the binoculars over the world). The Find on map centers the map display on the target, unit or geometry and highlights the symbol (so you can use the pop-up menu (from the right mouse button) if desired).

12. Weapon Monitors. Show "Operational status" (e.g., "ready", "Moving", etc.) on GDU & Paladin weapon monitors. This allows the operator at Cannon Battery or Platoon to monitor the individual weapon status without requiring him to open the unit data window. Show the TOT time (actual DTG) on the weapon monitor for TOT missions. Added a "Round" column to show the volume of fire for each mission listed on the monitor.

13. Master Unit List. The Master unit list window has been completely overhauled. The window is now a spreadsheet with "point and click" sort capability, a "find" feature and filter tool. The "Device type" ("PK 11 System", "JVMF", "USMTF00" etc.) will now be associated with a logical (familiar to user) name. For example, the system type for a Forward Observer system (FOS) will now be listed as "FOS" with options for the type of messaging it will use (JVMF R3, PK 11, JVMF R5).

14. AFATDS Unit Numbers (AUN) and Unit Reference Numbers (URN). AFATDS now sends information about units between AFATDS units using the URN. This means that it is very important (as it always has been) that the URNs in the JMUL are consistent across all OPFACs. This also means that the AUN can be different between AFATDS OPFACs for the same unit (AS LONG AS THE URN IS THE SAME!). This feature will improve the capability to add new units to the JMUL in the field. Operators no longer have to make sure the AFATDS Unit number is the same.

15. AFATDS Shutdown. The AFATDS operator can now shut down the workstation without having to log in as the "System Administrator".
16. ASR TOT. AFATDS now allows the operator to specify a TOT time for an air mission (instead of having to enter both the start & end times). If the operator uses a TOT time, the message sent to TBMCS will indicate the same DTG for the start & end times for the air mission. The TOT time is also available for display in the Air support List (ASL).
17. Trigger Event Window. Some slight reformatting of this window has been incorporated to make it easier to use. No changes in the basic capability of trigger events were affected by this change.
18. 15 Overlays Supported. Operators can now have up to 15 overlays associated with the map. Earlier AFATDS versions supported only 8 active overlays at a time.
19. Addition of Print Pro Software. AFATDS 6.4 uses the COE ESP Print Pro software to manage printers. This means changes to the procedure for configuring printers. See the operator's notes section for the procedure.
20. Map Icon Drag and Drop Capability Can be Switched On and Off. AFATDS 6.4 adds a feature that "disables" the unit icon drag and drop capability. Go to the Map menu item on the main tool bar, and select "Unit Drag/Drop". The Enable selection enables drag and drop. The Disable selection disables it. This feature is "disabled" when AFATDS is first started.

3.0 PROBLEMS CORRECTED

3.1 AFATDS Problems Corrected

1. **M782 MOFA Fuze Not Allowed with M548 (105mm RAP) Projectile**: AFATDS now allows you to select the M782 MOFA fuze with the M548 projectile.
2. **Using "All On" Selection on Comm Networks Window Doesn't Activate FCS Net:** FCS networks can now be activated with the All On command.
3. **MIDB Enemy Unit Window Display Problem:** The MIDB Enemy Unit window includes a check box for each enemy unit entry, indicating whether or not an AFATDS enemy unit has been created from the MIDB enemy unit. This check box now updates automatically when an enemy unit is created from the MIDB.
4. **Unable to remove CONOPS Comm Config Once it is Established:** With AFATDS 6.3.2, once a value was entered in the Comm Config field of the CONOPS Information for a unit, it was not possible to reset it to "blank". It can now be changed back to "blank" after an entry has been made.
5. **Command & Support Information Not Visible on General Unit Data Window:** This was an intermittent problem in 6.3.2.0. It was observed most often just after OPFAC startup. When the current situation was opened, the unit workspace opened, a unit selected, and its General Data Window opened, there were no entries in the commanding and supported unit fields. Selecting the fields did not cause a selection list of unit names to appear. This problem has not been seen on version 6.4.0.0.
6. **Bogus ASR Numbering alert posted when Creating ASRs:** This was another intermittent problem. During 6.3.2 testing, operators reported seeing the "No ASR Numbers Available" alert message while creating ASRs, even though an ASR number block had been entered on the Mission Preferences window. This erroneous alert is no longer seen on 6.4.0.0.
7. **AFATDS Selects MLRS DPICM Guided at OPFACs Running FS System and Unit Level Attack Analysis:** At OPFACs running FS System and Unit attack analysis, JEG (MLRS DPICM Guided) was almost always the selected munition when an MLRS DPICM solution was generated. This problem is fixed on 6.4.0.0.
8. **Received CFF is treated as an ATI report:** When an ATI is received at an OPFAC that has the target type in its HPT List, the target generates a fire request, which is sent to the next OPFAC in the mission chain. Although the mission is now a fire request, the receiving OPFAC still treats it as an ATI report. This is no longer the case with AFATDS 6.4. The next OPFAC correctly processes the message as a fire request.
9. **Unable to create "New" LAN Networks after entering Domain Name:** Operator is now prevented from entering invalid domain names.
10. **MLRS FCS Message/Comm Paths are dependent on order of network enable:** This problem is corrected on AFATDS 6.4. The order in which communications networks are enabled no longer matters.

11. **Cannot Change Adjusting Shell During Adjust Phase of a Smoke Mission**: AFATDS now allows the operator to specify a new adjusting shell and fuze during the adjust phase of the "Quick Smoke Adjust" mission. The new adjusting shell and fuze must be the shell/fuze that is to be fired for effect. This capability applies only to the Quick Smoke Adjust mission. For other missions, AFATDS does NOT allow the user to change adjusting munitions once the mission as been approved at the Intervention Point.
12. **Target Indicator "Match" Does Not Generate Operator Alert**: When AFATDS receives a target indicator report (i.e., a shelling report) that correlates with an existing, inactive target, AFATDS is supposed to generate an alert message for the operator. This problem is fixed in AFATDS 6.4.
13. **Creating Targets from MIDB Facilities Causes Shrinking Target List Window**: This problem is fixed on AFATDS 6.4.
14. **K02.27 TAC Air Request Accepted with K02.14 rather than K02.32**: When AFATDS processes an immediate tactical air request from a Pkg 11 or VMF R3 device, and the request results in an approved air mission (i.e., the air mission status is "confirmed" at AFATDS), AFATDS now sends a K02.32 Tactical Air Request Acceptance message to the requestor (the correct response). AFATDS was sending a K02.14 (message to observer) message.
15. **Exporting / Importing the Master Unit List has long delays:** This problem has been fixed in 6.4.
16. **AFATDS Does Not Check for Duplicate Hostnames when "All On" is Selected:** This problem has been fixed in 6.4.
17. **Fire Plans and Schedules of Fire Not Sent as Part of Fire Support Plan:** This problem has been fixed in 6.4.
18. **AFATDS Will Not Start If Database is Corrupted:** A menu item has been added to the Database Utility Menu that allows the operator to start AFATDS if the database has become corrupt. When selected, AFATDS ignores the current database and starts with the NULL database. Before activating, the operator should restore a valid database. It is also necessary to reload the classified JMEM CD. (Starting with the NULL database “zeroes out” the JMEM tables.)
19. **Editing Predefined "Fire Support Annex" renders Fire Support Planning unusable:** This problem is fixed in AFATDS 6.4
20. **MIDB Enemy units can be dragged on the Map:** AFATDS no longer allows enemy units created from MIDB files to be dragged on the map.
21. **Client User Accounts may lose assigned group:** This problem has not been encountered on AFATDS 6.4.
22. **OPFAC reconfigures when creating new units:** This problem has not been encountered on AFATDS 6.4.
23. **TIMELINE Recording Won't Work Unless Started Before 200 Targets are Accumulated:** This is no longer a problem with AFATDS 6.4

24. **Don't Use the Cease Load command in the Adjust Window:** Cease load is no longer a selectable option of the Adjust window.
25. **Client/Admin Window Does Not Provide Unsaved Data Warning:** The window no longer provides a "save" option. Any changes are automatically saved when the window is closed.
26. **Sending Fire Order from FA CP to FA CP with Same Echelon Causes Transmission Failure:** Sending a fire mission from an "FA CP" AFATDS unit (i.e., the unit role on the Basic Unit Data window for the unit is set to "Field Artillery Command Post") to another FA CP AFATDS unit with the same echelon (e.g. both are Corps FA CPs) sometimes resulted in a transmission failure on AFATDS 6.3.2. This problem is fixed on AFATDS 6.4.
27. **Creating a Planned Naval Unit with Only Basic Unit Data Causes AFATDS to Quit:** This problem is fixed on AFATDS 6.4.
28. **Editing IP Address on 188-220A Net with 2 Stations Causes Bogus "Too Many Stations" alert:** This problem is fixed on AFATDS 6.4.
29. **Moving Target Direction of "0" Rejected by Launcher**: This problem is fixed on AFATDS 6.4.
30. **Fuze Setting for M732A2 Must be an Even Number:** AFATDS now provides only "even" fuze settings for the M732A2 fuze.
31. **Erroneous Deny Message Generated If Target Generation Produces Non-High Payoff Target:** This problem is fixed on AFATDS 6.4.
32. **Monitoring MLRS Platoon Receives Bogus Alert When Battery Processes Mission Amendment:** This problem is fixed in AFATDS 6.4. The erroneous alert message is no longer generated.
33. **Toggling Geometry Coordinate Display Near the Equator and Okaying the Window May Change Coordinate Location:** This problem is fixed in AFATDS 6.4.
34. **Number of Aircraft Does Not Print on Air Support List Printout:** When printing an air support list, the number of aircraft associated with an air mission now prints correctly.
35. **Monitoring MLRS Platoon Does not Display "Ready" Status for TOT Missions:** When processing rockets missions with a TOT method of fire, the monitoring platoon headquarters now receives the "ready" status reported by the launcher.
36. **Registration Information Window Displays "0" Rounds to Fire When Entering Time Phase:** When conducting a precision registration with a time phase, after processing the "Time Repeat" command, the Number of Rounds field now correctly displays the number of rounds to fire.
37. **Min Time Between Rounds Field for Wheeled Launcher is Blank:** The Minimum Time Between Rounds field on the Rocket Missile Guidance window now defaults to 5 seconds.

38. **Don't Specify M577 Fuze with SADARM:** AFATDS no longer displays the M577 fuze as a legal fuze type when model M898 (SADARM) projectile is specified.
39. **Some Values Received in Record of Fire Message Are Not Stored Correctly.** ROF prints correctly now.
40. **CFZs Send by AFATDS Are All Zone 1.** Zone field in CFZs from AFATDS now contain the correct zone value from the corresponding RDO.
41. **When ATO is Received, Air Mission Start and Stop Times are Lost**: The ATO Start / Stop DTGs now contain the correct time value.
42. **Automatic Send of NLT EOM Message Delayed.** This problem has been fixed.
43. **Fire Orders for Multiple Paladins Received by just one Paladin.** This problem has been fixed.
44. **Survey Control Points (SCPs) Less Than 1 Degree from 0 Lat or 0 Long Change Hemispheres on Transmit:** This problem has been fixed.
45. **Basic Target Information window locks from Fire Plan, Unit Schedule window.** If the operator selects "View" when there is no target in the Unit's Schedule, the BTI window opens with incomplete data and can't be closed. The window now opens only when appropriate with the correct data and also closes properly.
46. **Editing URNs Can Cause Problems.** When the URN of the unit is changed, this can cause several potential problems. AFATDS 6.4.0 has been modified so that URNs can longer be edited after an OPFAC has been activated. If you need to modify an existing URN, you must do this before activation.
47. **Using Target Elements in Target Query Not Working Properly:** AFATDS now allows up to three target elements to be specified when conducting a target query. Target elements can now be specified as search criteria.
48. **Must Enter Propellant to get Attack Option for 105mm Cannon Units:** It is no longer necessary to enter propellant data for 105mm cannon units.
49. **AFATDS Accepts Call For Fire From Unknown Pkg 11 Unit:** AFATDS is NOT supposed to process call for fire messages when they come from units that are not part of the current situation. This problem has been fixed.
50. **Locations in Track Workspace Displayed in Radians:** Coordinate data in the Track Workspace summary display window is now displayed normally.
51. **Moving Launchers should not be sent Firing Point information on Fire Order.** When launchers reported a mobile status to AFATDS with firing points on file, AFATDS commands the launchers to a firing point in the CFF. This is no longer the case. AFATDS now directs mobile launchers to “fire from current position”.
52. **AFATDS Shifts Target Location if EOM RAT Received with OT Direction But No Deviation/Range shift:** This problem has been fixed.
53. **TI Drivers do not come up if AFATDS is exited and restarted.** AFATDS no longer "unplumbs" the TI devices when it shuts down, but immediately before changing the hostname of the workstation. The TI drivers now communicate properly.

54. **Incorrect projectile / propellant range for M927 in AFATDS database.** This problem has been corrected.

55. **Status Icons For Near and Far Range Mask Violations on Attack Options Tab Are 3200 Out:** The Attack Options Tab has status columns for Near Mask and Downrange Mask violations. When a weapon can fire without violating a near mask or downrange mask, these columns should display the letter "N" with a green background. If a violation is detected, they should display the letter "Y" with a red background. This problem has been corrected

56. **Automated MET Distribution Not Working.** This problem has been corrected.

57. **Do Not Change Permanent LAN Hostname with 9.2.H:** It should now be possible to update the workstation hostname. The workstation must be rebooted to do this.

58. **PASS Data Source Window Not Displaying Enemy Situation Topic:** This problem has been corrected.

59. **AFATDS does not distribute PASS generated geometries.** This problem has been corrected.

60. **Lot Designator and Manufacturer's Lot Number for Mortar/MLRS Projectiles.** Lot code and manufacturer's lot entries are no longer required for mortar, rocket, and naval munitions.

61. **AFATDS does not receive correct ammunition update from ASCA when fuze is MRF.** This problem has been corrected.

62. **Pasquill window time entry validation and entry does not work.** Pasquill window no longer performs validation checking for relative sunrise/sunset times. Zulu time can be entered on this window without causing difficulty.

63. **Group and Series target list do not display.** When a group or series is created in a Planned Situation and the operator attempts to edit the group or series, it can now be edited from the group/series window.

64. **Quick Smoke Mission with Adjust Method of Fire Becomes FFE Mission at AFATDS:** This problem has been corrected.

65. **Zeroing and Editing Ammo Lots May Cause Duplicate Lots to Be Created**: If you change the on hand quantity of an existing propellant lot to zero, and then subsequently edit the quantity, AFATDS no longer creates "duplicate" propellant lots.

66. **Creating Multiple Ammo Storage Sites Causes Problems:** This problem has been corrected.

67. **Ignore Maximum Ordinate (Max Ord) of 100 in MTO window:** AFATDS is no longer populating the Max Ord field in the MTO window with a value of 100. Max Ord is populated only if the firing unit is a naval ship.

68. **Automated MET Distribution Not Working:** Automated MET distribution (based on the MET Station ID in the General Unit Data window) is now functioning properly.

69. **Mission with NLT to MLRS simulator is denied**: Missions with NET and NLT times specified are now processed at the VMF R5 launcher simulators.

70. **ESP print pro (cupsd) can never be restarted.** This problem is fixed. Creating printer classes should no longer cause a problem.

71. **Deleted**

72. **Absence of Humidity Data in Pasquill Window May Prevent Quick Smoke Processing:** This is no longer a problem. However, operators at all OPFACs should periodically update the Pasquill data if there is any possibility that smoke fire requests will be processed by their OPFAC.

73. **Deleted**

74. **Deleted**

75. **Can't Assign Address on Non IP EPLRS Networks:** It is now possible to set the destination address field when establishing an EPLRS network.

76. **Adjusted Loc Field Not Updated for Quick Smoke Adjust Mission.** When adjustments are processed for the quick smoke adjust mission, the location in the Adjusted Loc field on the Tac Solution tab now updates to show the adjusted mission aimpoint.

77. **Schedule of Fire FASCAM Targets are Effects Incapable after SOF Recalc:** It is now possible to recalculate schedules of fire with FASCAM targets and get them scheduled without deleting and re-entering them.

78. **AFATDS to AFATDS Target Query for Named Target List:** When querying another AFATDS OPFAC for targets, the operator can restrict the search to specific target lists. The queried OPFAC now considers the target list restriction, and returns targets that meet the search criteria.

79. **EMT Permission Changes Not Recognized:** EMT permission changes are now processed when made. There is no need to log in again from the EMT.

80. **Unexpected Alert Displayed at MLRS Platoon for Amended Missions:** If a mission "amendment" is received at an MLRS Platoon OPFAC that is monitoring missions to its MLRS launchers, the Platoon AFATDS no longer displays a medium level alert that says a duplicate target was received.

81. **Munition Instructions for Fire Plan Not Processed:** When entering munitions to fire for targets on the Fire Plan Window, the way in which the operator "highlights" the target entry no longer makes a difference.

82. **No Solution for Copperhead Msns at Paladin Bn FA CP:** This problem is fixed. AFATDS now generates viable copperhead solutions, even if attack methods for the target type are present.

83. **VMF R5 Paladin Does Not Process "FPF Assign" from AFATDS:** FPF Assign and Copperhead Priority Target Assign missions to Paladin now work correctly.

84. **Deleted**

85. **MVV Data Transfer to Paladin Fails:** MVV data can now be sent to Paladin from AFATDS, and from AFATDS to Paladin. Be sure to select the Enhanced MVV mode (Detailed Unit Data window) for Paladin weapons.

86. **Response to Request for Howitzer Status Msg UTEd by VMF R5 Paladin:** Paladin can now request and receive status from AFATDS. Typically Paladin reports its status to AFATDS, rather than request its status from AFATDS, but should the need arise, AFATDS now responds with the correct version of the status message.

87. **Reception of Plan/Phase Fire Plan is Unsuccessful When it Includes Groups and Series:** This problem is fixed. It should now be possible to send fire support plans with fire plans that include groups and series.

88. **Stationary Paladins Treated as Ready, not Degraded:** AFATDS now correctly interprets the Stationary status.

89. **Can't Save Star Office Files to Default Directory:** Star Office files can now be saved to the default directory.

90. **Newly Created User Account Cannot Use AFATDS:** Newly created user accounts should now have AFATDS operator privileges. If you create a new user account, and log on as that user, you should be able to start AFATDS software.

91. **Subordinate Unit Status Monitor Window Won't Close If Column Selections are Changed:** If the operator opens the Subordinate Unit Status Monitor window and alters the displayed column selections, the window can now be closed.

92. **Coordinate Conversions with Schwarzeck, Timbalai 1948, Midway Astro Datums:** Errors in performing coordinate conversions when these datums are used are corrected in this version of AFATDS software.

93. **Do Not Change URNs in the JMUL After Activation:** Editing URNs in the AFATDS Master Unit list should never be done indiscriminately. If URNs are not consistent across AFATDS OPFACs, this can lead to communications and data integrity problems. Normally, the data provided in the AFATDS JMUL is correct, and it should not be necessary to change URNs. If it is necessary to make a change, AFATDS no longer allows this change to be made while AFATDS is fully operational. If a URN must be altered, you must do this immediately after starting AFATDS, before activating the OPFAC. Once the OPFAC is activated, the URN field is no longer editable.

94. **Sending Large Numbers of Tracks over Radio Network Causes System Failure:** Several changes have been made to make track data distribution more efficient, particularly over low bandwidth networks. System failures should no longer occur.

95. **Schwarzeck & Timbalai 1948 Datum Conversions Differ - AFATDS/Centaur:** The associated ellipsoid for the Schwarzeck datum has been changed from Bessel_1841 to Bessel_1841 (Namibia). The Everest (Brunei and E. Malaysia) ellipsoid has been added to the AFATDS ellipsoid with corrected parameters. The Timbalai 1948 datum has been changed to from Everest to Everest (Brunei and E. Malaysia). The "delta A parameter for the datum shift" for the Timbalai 1948 datum has been changed from 860.655 to 838.444. The Schwarzeck & Timbalai 1948 Datum conversions now agree between AFATDS and Centaur.

96. **Incorporate Late GFI for JTJ Munition**: The JTJ munition is now shown in AFATDS ammunition windows as Model M31, DODAC 1340-HA37.

97. **Enable Drag and Drop as FA/CP, then drag and drop PAL and FA/CP locks AFATDS:** The selection of the Paladin CP along with it's Paladins icons no longer cause AFATDS to lock or the AFATDS COE Banner to disappear.

98. **Smoke Screen Length Translation may cause VMF R5/6 CFFs to fail transmission:** The projectile type is now taken into account when translating smoke screen lengths.

99. **R5 Pal EOM on FPF mission does not end the mission from Commands window:** The "Delete Priority Mission" checkbox on the EOM window if the mission type is Assign, is no longer automatically selected. If you want to stop firing an FPF, select EOM on the Automated Weapon Status Monitor window, and OK the resulting EOM window. If you want to delete the FPF mission, follow the same procedure, but select the "Delete Priority Mission" checkbox before okaying the EOM window.

100. **Paladin Response to Registration Request No Longer Displays in CMP:** When requesting registration data from Paladin, Paladin no longer responds with a freetext message. Now it sends the VMF K02.2. Registration Data message. AFATDS has been modified to display this message when received from Paladin.

101. **Cannot Create a Pkg 11 PFED:** AFATDS now provides a "pkg 11" selection in the system type field of the MUL window when system name PFED is selected.

102. **Unable to Schedule Fire Plan Targets at an FSE OPFAC:** When targets are received from an external device at an FSE, the operator was having trouble getting them to schedule. This was because the "time acquired" value for the targets was not being populated. This problem has been corrected.

103. **FA CP Running Unit Level Attack Analysis Cannot generate Quick Smoke Solutions:** This problem has been corrected.

104. **AFATDS Automatic Route Transition Fails for FST Connection:** You may have encountered this following problem if you used an FST device with a primary LAN and a secondary wire or radio communications route. On previous software versions, if AFATDS tried to re-establish LAN communications for any reason, and the attempt failed, AFATDS deactivated the secondary communications route, and the comm. status changed to "red". This problem has been corrected. If AFATDS cannot establish communications via the primary route, it transitions to the secondary route.

105. **Implement of Fire Plan Fails With Groups and Series:** A fire plan built in a plan/phase context will now implement, even if it contains groups and series.

106. **Don't Send Air Mission Info Copies to Units in Your Request/Approval Chain:** The following problem was observed with air mission processing on a previous software version. A BN FSCC had the following air mission approval chain:

    BN FSCC => DASC => TACC => TBMCS. In addition, the BN FSCC had the TACC listed as a mission info addressee. When an immediate CAS request that originated at the BN FSCC was forwarded by the DASC, it failed duplication at the TACC. This was because the TACC already had a copy of the request (via info copy routing). AFATDS has been modified so that its duplication logic no longer considers an "info copy" to be a duplicate mission. It should be possible for higher-level OPFACs to receive an info copy, and still process a subsequent fire request related to the info copy target.

107. **Don't use "Utilize Net Busy Indication from Device" Checkbox on Comm Workspace:** The Utilize Net Busy Indication from Device Checkbox on the Communications Workspace window now works properly.

108. **Wrong Comm Settings Shown if Comm Config is Switched between an HF Config and a non-HF Config:** This problem has been corrected.

109. **Changing Number of Stations on Network Configurations Window May Not Update Subscriber Number:** This problem has been corrected.

110. **Changing Adjusting Shell/Fuze During Quick Smoke Mission via Subs Adjust Message Does Not Work:** If you are executing a quick smoke adjust mission from an external device (e.g. a VMF R5 FOS), and you enter a subsequent adjustment specifying shell smoke and fuze time as the adjusting shell/fuze, AFATDS now processes the adjustment correctly.

111. **Quick Smoke Missions Fail If "Calm Wind" Is Sent:** When initiating quick smoke missions from a VMF R5 device (e.g. FOS), AFATDS will now process the mission if the observer specifies "calm wind" or "no wind" for the Maneuver Target Wind Direction. AFATDS generates a solution based on a very mild tailwind.

112. **Linear and Rectangular Targets May Product False SFA Violations:** This problem has been corrected.

113. **WP Missions Stop at More Data Icon:** If AFATDS processes an ordinary fire mission (not a quick smoke mission) with WP as the FFE1 or FFE2 projectile, the mission no longer stops at the More Data Icon.

114. **Can't Enter Az of Lay 3200 in Detailed Unit Data Window:** This problem has been corrected.

115. **Send Button Disabled on Fire Commands Window when Countdown Timer Running:** This problem has been corrected.

116. **Updated Mission Locations Do Not Update Active Missions:** In version 6.4, AFATDS added the capability to update active missions (i.e., issue amended fire orders) when an updated target location is received or entered by the operator. This function is now working properly.

117. **Planned Communications Configuration is Deleted When Made Current:** This problem has been corrected.

118. **Cannot Create "New" Enemy Situation with Current Friendly Situation When Creating a Fire Support Plan:** This problem has been corrected.
119. **Can't Add the Local Unit to a Planned Communications Configuration:** This problem has been corrected.
120. **Requesting Unit Column on ASL Window Incorrect:** The Air Support List window now displays the requesting unit associated with the air requests
121. **Problems Archiving Data:** Problems with database archiving have been corrected.
122. **VMF R5 Paladin UTEs Ammo Message when Lot Numbers have Blanks:** If AFATDS sends an ammo status message to Paladin, Paladin will UTE the message if the manufacturer's lot number has blanks. When AFATDS generates a "default" lot number, the number no longer contains blanks, and should be acceptable to Paladin.
123. **AFATDS start-up will hang during network initialization:** This condition may arise if the SPTCIM(s) become defective, or if defective SPTCIMS are placed in the machines before starting. AFATDS software has been modified to mitigate this problem. On startup, AFATDS will "interrogate" the SPTCIMs to see what Firmware version is associated with them. If the SPTCIMs do not respond appropriately, AFATDS will generate a warning message, telling the operator to "reflash" the SPTCIMs (i.e., reset the firmware). AFATDS provides a utility for performing this function, accessible under the Start button => AFATDS Functions => Communications
124. **AFATDS to AFATDS ASL Transfer Fails:** In some cases, sending ASLs between AFATDS OPFACs would fail, and cause a reconfiguration at the receiving OPFAC. This problem was caused by an error in an AFATDS File Transfer Protocol procedure. This problem has been corrected.
125. **TBMCS to AFATDS ASL Transfer Loses Some ASRs:** In another ASL transfer problem, some air missions sent by TBMCS were lost at the receiving OPFAC. This problem was caused by a mistranslation of the one of the fields in the D670 message. This problem has been corrected.
126. **Database Restore Requires Multiple Tries:** Users have experienced problems trying to restore previously recorded databases on AFATDS 6.4 software. This problem was caused by a "timeout" mechanism in the process that controls the database restore. The time interval was too short. This problem has been corrected.
127. **AFATDS Export ASL to Floppy Works Intermittently:** The AFATDS export ASL to floppy function generally worked on the first try, but subsequent attempts to use it often failed. This problem has been corrected.
128. **Some Survey Control Point Locations Received Incorrectly:** When AFATDS processed a survey control point (SCP) received from an external device, and the SCP latitude or longitude value just happened to fall between 59 and 60 seconds, AFATDS would round the latitude/longitude to the next whole minute. This resulted in a location that could be off by several meters. This problem has been corrected.

129. **Checkfire All Not Processed at OPFACs with More than 200 Subordinate Units:** This problem was discovered during testing when a Checkfire All message was processed at a division TAC FSE. The FSE had about 12 subordinate and supporting units. However, the AFATDS Checkfire All procedure traces all of the command and support chains to the "bottom" and returns all of the units that reside anywhere in the chain. When the direct subordinate and supporting units, and their subordinate and supporting units, and their subordinate and supporting units, etc. were all added up, the total came to more than 200, which is more than the temporary data structure AFATDS uses for storing this information can handle. As a result, the FSE did not process the checkfire completely. Specifically, it did not disseminate the Checkfire All command to its subordinate and supporting units as it should have. This problem has been corrected.

130. **Air Corridors from TAIS May Not Be Processed by AFATDS:** An air corridor sent by TAIS to AFATDS was not processed if the duration exceeded the maximum duration allowed by AFATDS (9999 minutes). AFATDS has been modified so that, if the air corridor duration exceeds this value, AFATDS sets the duration to the maximum. If the air corridor is supposed to last longer than 9999 minutes (approximately one week), the AFATDS operator must periodically edit the air corridor and update the effective time.

131. **Adjust Fire, Bn Mass Mission Against Segmented Target May Generate Bogus Mission Aimpoints:** When an adjust fire mass mission was processed against a segmented target (i.e. participating fire units are shooting at distinct target segments), AFATDS was incorrectly calculating the mission aimpoint. If a deviation/range correction was processed, AFATDS applied the correction to the center of the adjusting unit's target segment, rather than the center of the target. If the adjusting unit was firing something other than the center segment during the FFE phase, this produced an incorrect aimpoint location. This problem has been corrected. Now the mission aimpoint is calculated by applying the correction to the target center. Segment aimpoints are not distributed until adjustments are complete, and the FFE phase is executed.

132. **Linear Target Attitude Not Updated When Mission Re-Initiated:** If the operator initiated a fire mission against a previously established linear target and updated the target attitude, or if he initiated a fire mission against a previously established point or circular target, and changed the target shape to linear or rectangular, AFATDS did not handle the new target attitude correctly. As a result, aimpoints for these missions could be off by hundreds of meters. This problem has been corrected. AFATDS now updates the target attitude correctly, and determines mission aimpoints based on the new target shape and attitude.

133. **AFATDS Will Not Connect to PASS When Topic Names Exceed 80 Characters:** If the AFATDS operator tried to connect to the PASS server, and PASS had published topic names that exceeded 80 characters, AFATDS would not connect to PASS. This problem has been corrected. AFATDS now connects to PASS regardless of topic name length.

134. **No Cannon Ballistic Solutions Above 80.5 North Latitude:** Due to an error in the way it initialized the NABK software, previous versions of AFATDS would not produce cannon ballistic solutions if the weapon latitude was greater than 80.5 degrees north. This problem has been corrected. AFATDS can now produce solutions for all locations between 80 south and 84 north.

3.2 EMT Problems Corrected

1. **External Clients May Login with Same Name & Password:** This problem has not been encountered with AFATDS/EMT 6.4.
2. **Cannot issue checkfiring command from killbox conflict window:** This is fixed in EMT 6.4. It is now possible to issue the checkfire command from the killbox conflict window.
3. **Plan Targets Implemented in Current Not Displayed on EMT:** This problem is fixed in EMT 6.4.
4. **EMT Allows FFE2 FASCAM Munition to be Specified:** This is no longer an issue in EMT 6.4. EMT provides the same options for selecting FASCAM munitions as AFATDS.
5. **EMT Allows ASR Mission Times Outside of ASL Boundaries:** EMT now checks ASR mission times against ASL start and stop times. Mission start & stop times that fall outside of the ASL start & stop time are replaced with the ASL start & stop times.
6. **When Deleting Killboxes, EMT Does Not Provide a Confirm Message:** This problem is fixed on EMT 6.4.
7. **Apply Button on View/Edit Killbox Window Disabled After First Use:** This problem is fixed on EMT 6.4.
8. **Associated Map Items Are Not Deleted When Unit or Target is Deleted:** This problem has not been encountered on EMT 6.4.
9. **EMT Tool Bar Not Displayed When Started Using C2PC:** This is no longer a problem with EMT 6.4.
10. **Files with Extenders in Upper Case Letters are not Displayed:** This is no longer a problem with EMT 6.4.
11. **JMTK does not install.** When the operator installs JMTK on a Toughbook that had recently been reloaded with Win2000, a Java View error occurred. When the operator downloaded a SDK from the internet, JMTK could then be loaded on the Toughbook. Installer for JMTK had a windows variable set incorrectly. This is set upon EMT installation and upon a JDK or JRE installation, but not in a fresh box. The JMTK installer is modified to correct this problem.
12. **MIDB Worksheet Does Not Display**. MIDB was overlooked during implementation of EMT. The worksheet now displays.

13. **Deleted Protected Areas Still Show Up on No Strike List Window**. When deleting Protected Areas from the No Strike List, the table doesn't update properly and still shows the area. If the user tries to delete the area again, the window reports that the area can't be deleted due to an existing conflict. There is no way to refresh the window to show the Protected Area has been deleted except to shut EMT down. The No Strike List window now functions properly.
14. **ASL Import Not Working.** The ASL import functionality now works.
15. **FSCOORD Sync Tool (FST) is Not Receiving Updates via 188-220C Comm:** The FST now receives updates to AFATDS data when connected remotely via a 188-220C network.
16. **FST Does Not Receive Targets During Data Synchronization:** FST now receives target data from AFATDS synchronization.
17. **Changing Multiple Unit Data Items Causes Location Update to be Ignored:** If the EMT operator updates a unit location and also modifies an additional unit data item (e.g. operational status), all updates are now processed correctly.
18. **Unable to Create Targets with FST:** Target creation using the FSCOORD Sync Tool (FST) is now working.
19. **Must Perform Data Sync Twice with FST:** When performing data synchronization with the FST, it is no longer necessary to perform the operation twice before the appropriate data appears on the FST.
20. **Firing Vectors Not Displayed on EMT:** Friendly firing vectors are now displayed with this EMT version.
21. **No Ready Displayed on Paladin Monitor for Copperhead Mission:** When a fire order for a copperhead target of opportunity mission is sent to Paladin, and Paladin sends its “ready” response, AFATDS is not updating the Paladin Weapon Status Monitor with the “ready” status. However, the observer receives the “ready” message, so the mission thread can be executed without any difficulty.
22. **Delete of Named Target List at EMT Causes AFATDS to Reconfigure:** If the EMT operator deletes a target list that has been saved to AFATDS, the AFATDS workstation reconfigures. This problem is corrected on 9.2.J1.
23. **EMT Requires Old BE Number Format:** This problem has been corrected.
24. **When Editing ASR, Target Window May Appear Rather Than ASR Window:** This problem has been corrected.
25. **Unable to Select Fire Support System and Munitions on Named Target Lists:** If the EMT operator creates a named target list, creates a new target, and tries to specify a fire support system for engaging the target, or a munition type for engaging the target, EMT now processes the entries correctly.
26. **Air Corridor - Critical Time not picking up in third panel (Air Corridor Info).** This problem has been corrected.
27. **Rectangular Targets don't display on the map.** Rectangular targets now display on the map.

28. **Unable to create target from enemy unit.** This problem has been corrected.
29. **Checkfire Not Received at FST.** This problem has been corrected.
30. **Some Air Mission Types Not Mapped Properly at EMT:** This problem has been corrected. Air mission types now display correctly.
31. **FST Application Won't Start in 3.1.R Release:** This problem has been corrected.
32. **FSCOORD Sync Tool Will Not Resync After Communications Interrupt:** This problem has been corrected.
33. **Obstacle Area Displays as an Obstacle Free Area on EMT:** On EMT, the obstacle area geometry (a polygon with triangular "teeth" sticking out) now displays correctly.
34. **Targets Display as Inactive after Shot is received:** FST now correctly displays mission status for active targets.
35. **Unable to Install EMT:** This problem has been corrected.

    EMT_3.1.U installation corrects the IFL environment variable.

    Previous versions of EMT and C2PC 6.1.0 installations caused conflicts in the Windows environment variables, specifically the IFL_HOME environment variable. This caused registry errors to display when C2PC was started and also prevented the JMTK application from starting. This has been corrected with EMT_3.1.U. The sequence is to install C2PC 6.1.0, C2PC 6.1.0 Patch 1 and subsequently EMT_3.1.U.

4.0 AFATDS KNOWN PROBLEMS

1. **AFATDS Displays Only 12 Firing Vectors Per Mission**: This problem may be encountered at Paladin Battalion FA CP's conducting massed missions and running detailed attack analysis. AFATDS will display a maximum of 12 friendly fire vectors per mission. Even though the mission may include more units, only 12 vectors will be displayed. Mission processing is not otherwise affected.
2. **Deleted**
3. **Deleted**
4. **Deleted**

6. **Restoring Database requires selecting restore button twice.** Restoring Database may require selecting the Restore button twice. First restore sometimes stops after 5 seconds.
7. **Deleted**
8. **Deleted**
9. **Deleted**
10. **Battery Monitor Window Does Not Display on TADPOLE:** The battery status monitor window normally visible on the NCU (TADPOLE) computer does not display with this version of AFATDS software.
11. **Deleted**
12. **CMP Messages Can't Be Sent to USMTF93 ASAS:** Because of an error in translating the "ATCCS Alias" field, messages built using CMP for transmission to a USMTF 93 ASAS device will fail. Messages generated by AFATDS, including test messages, can be sent successfully to the USMTF93 ASAS. CMP messages can be built and sent successfully to an ABCS00 ASAS device.
13. **Don’t Try to Restore an AFATDS 6.3.1 Database on AFATDS 6.4:** Do not attempt to restore an AFATDS 6.3.1 database on this or any future version of AFATDS software. The restore will fail, and will probably reduce the AFATDS software to an unusable state, which will require a software reload. AFATDS 6.4 uses a new database tool (Oracle) that is incompatible with the old 6.3.1 product (Interbase).
14. **Moving Target Azimuth Not Processed on Receipt of Target Intel Message (VMF R5 K02.9):** When AFATDS receives an artillery target intelligence (ATI) report (VMF R5 K02.9), it fails to translate the moving target azimuth field. The moving target direction will not appear in the AFATDS target data.

15. **AFATDS Applies HOB Correction to Aimpoint Elevation:** AFATDS does not correctly process Up/Down corrections when an observer is trying to adjust fuze time height of burst. Rather than adjusting fuze setting, AFATDS applies the up/down correction to the target elevation. As a result, QE increases and decreases and the fuze setting remains the same. If HOB corrections are small, the AFATDS computed data will probably still yield satisfactory results in the target area. If large HOB corrections are needed, and time fuzes are the only option for producing air bursts, then consider conducting a time registration (precision or HB). AFATDS correctly computes a fuze correction from a registration mission.

4.1 AFATDS Known Problems with Workarounds

1. **Printing Functions may discontinue if Print Queue alert is ignored:** Print Functions may discontinue after prolonged heavy printing. This has been observed during testing when printing was turned on for all messages in a high intensity scenario over several days. Operators should manage their Print operations and only print necessary information. If the printer becomes unavailable all other AFATDS functions will continue normally. Operators should wait until an opportune time and then shutdown and reboot the workstation to regain printer functions.
2. **Re-establishing LAN communications of channel that was on a Slave Workstation when a catastrophic failure of the slave occurs can result in a LAN channel that does not initially function:** This problem may occur at a multiworkstation OPFAC that has a LAN network physically connected to one of the slave workstations. If the slave workstation with the LAN channel should fail, this may cause LAN networks at the master workstation to fail. If the operator turns the failed network off, removes the assigned channel, and then re-assigns the channel and reactivates the network, communications return to normal.
3. **Route management not transitioning with VMF Primary/Secondary routes:** If a direct primary AFATDS VMF network and a direct secondary net is configured for a communications route, the automatic transition from primary to secondary will not occur. The operator can open the Destination Units window and select Activate Secondary and re-transmit the message.
4. **AFATDS Gives Unexpected Reason for Target Scheduling Failure**: If you attempt to build a schedule of fires in the current context that includes fire units with no ammunition on hand, AFATDS will not schedule them. But the exception reason given will be "range" rather than "ammunition". This is because of the way AFATDS performs attack analysis. It first checks to see if fire units are within range of a target. Range varies based on the ammunition type being fired, so AFATDS first looks to see what ammunition types are available, and determines maximum range accordingly. A unit with no ammunition on hand has what amounts to a "zero" range capability. Hence, this condition produces a "range" exception.
5. **SPTCIMs Not Recognized When Both Are Removed and Reinserted:** This problem may be encountered if it is necessary to reseat the SPTCIM devices on the CCU2 computer. If both SPTCIMs are reseated, the Unit Configuration window may indicate that only one of them is available. If this happens, remove and reinsert each SPTCIM one at a time, refreshing the Unit Configuration window after each SPTCIM is reseated. This should restore them to a "good" status. It is possible to hang AFATDS by repeated removal, reinsert and refresh of SPTICMs. It is best to only insert any powered device with power is not applied to the workstation. For instance, external TCIMs and the SCSI controller can be damaged if cables are connected while power is applied to the workstation.

6. **Certain IOS Track Types Will Never Become AFATDS Units:** AFATDS 6.4.0 provides expanded capability to process IOS track data. However, certain track types are not accepted by AFATDS. Specifically, friendly and neutral tracks of type MERCHANT, FISHING, and AIR will not become AFATDS units. Other friendly and neutral track types will update AFATDS unit data provided they have a corresponding AFATDS MUL entry, and the IOS track name precisely matches the MUL "JMCIS Alias" entry.

7. **Synchronizing the AFATDS time backwards causes the Progress Indicator to freeze and grays out some options when Situations becomes active:** Use Clock Synchronization with caution. Various Unix and Alsys Ada runtime operations as well as AFATDS data are time sensitive. Big changes to the system clock (more than five minutes) can cause undesirable behavior (e.g. workstation crash, loss of data integrity). The best time for clock synchronization is prior to activation. It is always better to set the time forward, when possible. If the time is set backward prior to activation, do not continue with activation. Rather, you should exit AFATDS and restart.

8. **Attack Options Tab Sometimes "Locks Up":** On rare occasions, you may encounter a problem with AFATDS displaying the Attack Options data for an incapable option (red gumball) in the Intervention Point window. When the Attack Options Tab is selected to determine why no capable options were generated, AFATDS displays a "watch cursor", and the Attack Options Tab remains "grayed out". AFATDS has generated a large number of incapable attack options (AFATDS can generate up to 500) and is attempting to display all of these to the operator. When the Attack Options Tab is selected under these circumstances, it remains "grayed out" while the system is attempting to populate the window with all the attack options. If this happens, the simplest way to recover is to close the window using the "Close" menu item from the pulldown menu accessible from a "right click" on the AFATDS icon in the upper left corner of the window with the infinite watch cursor. If this problem is encountered frequently, it is likely that something is wrong with the database or setup. For example, running detailed attack analysis with no ammunition, or a duplicate used lot code in a subordinate fire unit's files frequently causes this problem.

9. **Problems With AFATDS VMF Communications Protocol and TACLINK 3000 Modems:** During testing of 6.4.0 software, we have encountered problems trying to establish communications between OPFACs when using TACLINK 3000 modems and AFATDS VMF communications networks over radio. This problem applies when a *Network Type* of VMF is selected, *not* when the VMF message protocol is used. The TL3000 modems were not capable of communicating using Channel 2 of the modem via an AFATDS VMF Network. This problem can be avoided if 188-220A and/or 188-220C type networks are used with TL3000 modems.

10. **Toggle Display Options to Restore Unit Tree in Unit Workspace:** This problem may occur after starting up, or after importing a new Master Unit List. The operator opens the Unit Workspace, but no unit names are displayed in the unit "tree" (on the left edge of the window). If this occurs, toggle between the "Friendly/Enemy" and "Unit Type" display options for the workspace. This should cause the unit tree to display normally.

11. **Segmented ATACMS BAT Target Cannot be Fully Engaged by Assigned Launcher:** When processing a large ATACMS BAT target that requires segmentation into two child targets, and each child target requires only one ATACMS BAT missile, AFATDS may assign a single launcher (with two missiles) to fire the mission. If the method of control is Warning Order or At My Command, the following problem arises. The two targets are sent as separate missions to the launcher. The launcher can report a "ready" status for only one target at a time. As a result, the AFATDS will never receive a "ready" for the second child target. If the operator chooses to "fire" the parent target based on the one "ready" child target, the launcher receives a "fire" command for the first child target, and an EOM message for the second. There are several ways to overcome this problem. One is to keep target sizes to less than 4000 meters (and the target strength under 72). Segmentation is not performed unless one of these thresholds is exceeded. Another technique is to modify unit data so that launchers have only one ATACMS BAT (even if they are really uploaded with 2). This will insure that AFATDS assigns each launcher to fire only one missile per mission.

12. **Difficulties Printing Freetext Messages in CMP:** If you try to print a freetext message from CMP, you may see a message that says the printer service is not available. If this happens, try exiting CMP. Wait for CMP to reconfigure, then try to print again. This should cause the printer service to become selectable again.

13. **Deleted**

14. **Deleted**

15. **Deleted**

16. **Deleted**

17. **Deleted**

18. **Deleted**

19. **Deleted**

20. **Deleted**

21. **Fire Plan Tab Remains on EMT Even After Fire Plan is Deleted from AFATDS:** Deleting a fire plan from AFATDS does not always remove the fire plan tab displayed on EMT. If you select the deleted fire plan on the EMT display, it does not contain any target data.

22. **Deleted**

23. **Checkfire by Target # Sent to All GDUs When Performing Simultaneous Missions:** If you are performing simultaneous missions, and place one of the missions in checkfire, AFATDS sends the checkfire message to all GDUs; even to GDUs that are not assigned to fire the checkfired mission. You can manually resend commands to the GDUs for the "non-checkfired" mission.

24. **Deleted**

25. **IP to Target Heading Not Calculated on Printed 9 Line Brief:** The printed air mission brief is supposed to calculate the heading in degrees from the Initial Point to the target. This is line 2 of the 9 line brief. The Initial Point location is populated from the Report in Point on the air support request window. The printout typically shows zero for the IP - Target heading. If there is an ingress direction on the air support request, then this value is shown on line 2.

26. **Deleted**

27. **Deleted**

28. **Deleted**

29. **Deleted**

30. **Deleted**

31. **ASR Number Alert Appears Too Early:** AFATDS sometimes generates an alert indicating that the ASR number block is used up when there are still plenty of numbers left. Operators should ignore this alert and continue processing.

32. **Deleted**

33. **Deleted**

34. **Deleted**

35. **Deleted**

36. **Deleted**

37. **Recalc of "Massed" Quick Smoke Mission at Subordinate Unit Fails:** If a quick smoke mission is processed at a Bn FDC, and it requires multiple subordinate units to fire, AFATDS automatically generates and sends the appropriate fire orders to the subordinate units. Each of the subordinate units will be assigned a "piece" of the smoke screen in the form of initial volley and sustaining volley aimpoints. The subordinate units should NOT attempt to recalculate the quick smoke mission. The mission has already been analyzed by the Bn FDC, and the aimpoints assigned. Recalculating the mission at the lower level OPFAC will cause AFATDS to try and generate a solution for the entire smoke screen. It is unlikely that a single fire unit can execute the smoke screen, or it would not have been assigned to multiple units. When processing quick smoke missions at battery/platoon OPFACs, try to avoid recalculating the mission.

38. **Drag and Drop of Battery CP and Subordinate Paladins Produces Incorrect Locations: If** you use the "drag and drop" method of moving units, and you happen to "lasso" a Paladin battery FA CP and one or more of its subordinate Paladins at once, you will encounter the following problem. The Paladin unit locations are updated correctly. The battery FA CP ends up at 0 lat, 0 long, or some other unlikely location. This problem can be avoided by moving the Paladins and FA CP units separately. The "drag and drop" method of moving units in AFATDS should be used only in an exercise/training environment.

39. **Must Specify ILLUM Munition When Initiating Continuous Illum Mission from the Keyboard:** When initiating a continuous illumination mission at the AFATDS GDU OPFAC, be sure to specify shell Illum as the FFE1 projectile. If you don't, the automatic timing mechanism that keeps the gun(s) firing at the appropriate time interval will not start.

40. **MTOs Not Generated if Device Type Air Printer is Used:** If your database has an air unit that has been built from a MUL entry with an "air printer" end system type, and you process a mission where this air unit is the assigned unit to fire, AFATDS will not generate an MTO for the mission. To avoid this problem, create a new air unit with a different end system type.

41. **Track Distribution Generates False Transmission Failure Messages:** If your AFATDS OPFAC is processing large amounts of track data, and you are auto-distributing the data to other OPFACs, you may see large numbers of failed transmission messages. This probably indicates that the network has become "clogged" with track data transmissions. If transmissions take more than 5 minutes to reach their destination, AFATDS is erroneously reporting these as a transmission failures, even if the messages are subsequently sent successfully.

42. **Do Not Connect 220A and 220C Networks to the Same Communications Device:** If you are communicating over both 188-220A and 188-220C networks from the same AFATDS OPFAC, do not "connect" the two networks; i.e., if these are radio networks, do not tune the radios to the same frequency; if they are wire networks, do not connect the wires. If the two networks should "cross wires" somehow, both will rapidly degrade and fail. It is unlikely that this condition would occur under normal circumstances. If you have both 220A and 220C networks, and both fail for an unknown reason, check to see if they are somehow "listening" to one another.

43. **Deleted**

44. **Deleted**

45. **Deleted**

46. **Deleted**

47. **Deleted**

49. **Deleted**

50. **Deleted**

51. **Deleted**

52. **Deleted**

53. **Deleted**

54. **Sending 300 Point Geometry to Multiple Destinations May Generate Bogus Transmission Failure Messages:** When sending large geometries (i.e., geometries approaching 300 points) to multiple destinations over a radio network, AFATDS may generate false transmission failure messages. This is because the standard "timeout" for recording transmission success does not account for the longer time needed to send the larger message in all circumstances. For best results, we recommend that you limit sending large geometries to two destinations at a time. If nets are especially congested, we suggest limiting transmission of large geometries to just one destination at a time. Transmission timing parameters for large, segmented messages are optimized for a small number of destinations, so you are more likely to have success with just one destination unit.

55. **Deleted**

56. **Deleted**

57. **Deleted**

58. **Deleted**

59. **EOM, Record as Known Point From Pkg 11 FOS Does Not Generate Known Point at AFATDS:** If a Pkg 11 FOS operator wants to establish a known point at AFATDS, he must include a target number in the "establish known point" message. Although FOS allows him to send the message without a target number, AFATDS will not process it unless a target number is present.

60. **Deleted**

61. **Schedule of Fires Printout May Not Accurately Reflect Shift vs. Fire Time:** When printing a schedule of fires, AFATDS depicts a fire unit engaging a target with three symbols (*, F, S). The asterisk indicates the start time for firing the target, and is displayed accurately. It is followed by F's that indicate firing time, and S's that indicate shift time. Each symbol represents 30 seconds of elapsed time. A target that requires 3 minutes of firing time and 2 minutes of shift time, for example, should be printed as follows: *FFFFFSSSS. In fact, AFATDS prints this as: *FFFFFFFSS. The overall time spent on the target is correct (5 minutes), but the proportion of firing time to shift time is incorrect. It appears that the printout always depicts 1 minute of shift time, and the rest firing time, regardless of the true firing time/shift time values.

62. **Shift Times in Schedule of Fire Vary When a Combination of In-Traverse, Out-of-Traverse Targets is Engaged:** When engaging targets in a schedule of fire with towed artillery pieces that are outside the traverse limits of the weapons (e.g. 400 mils for an M198), AFATDS is designed to add two minutes to the normal unit shift time. So an "out of traverse" target for an M198 unit with a 1-minute shift time should have a 3-minute shift time. AFATDS computes the shift time accurately so long as all of the targets are "in traverse" or all are "out of traverse". When the schedule contains a combination of "in traverse" and "out of traverse" targets, the results for shift time are inconsistent; i.e., shift times can be either 1 minute longer or 1 minute shorter than expected. Shift times always fall within a three-minute range, however, with unit shift time as the lower bound and unit shift time plus 2 minutes as the upper bound.

63. **CMP Messages from Slave Workstation May Have Wrong Header:** When composing and sending CMP messages from a slave workstation, the CMP software may populate the message header with the wrong address. If the slave has been activated recently as a standalone OPFAC, the unit ID assigned at that time is sometimes retained by the CMP software as the station address. As a result, recipients of the message will have trouble using the CMP "Reply" feature, because the message will not have the correct destination. To overcome this problem, one option is to send CMP messages from the master workstation only. Another option is to indicate in the message body who the recipient should respond to.

64. **Deleted**

65. **Moving Target Location Using Two Locations Does Not Work for VMF R3, VMF R5:** AFATDS does not correctly process the "Moving Target, Two Locations" case of the K02.4 message (VMF R3 and VMF R5 interfaces)

66. **Deleted**

67. **Deleted**

68. **Deleting Uploaded Munitions From Map Icon Pulldown Menu Fails:** If you choose the delete option from a unit map icon, and choose to delete only uploaded munitions, the delete is not processed. Uploaded munitions can be deleted by editing the unit in the Unit Workspace and deleting uploaded munitions there.

69. **Unable to Archive or Transmit Comm Config That Includes Permanent LAN Network:** If you copy the current communications configuration to a planned configuration, and try to archive or send the planned configuration, route information for destinations on the permanent LAN is lost. You can overcome this problem by building a supplemental LAN network and then archiving the information. When this planned Communications Configuration is either imported or received, reconstruct the permanent LAN Network using the information from the supplemental network.

deleted

71. **Posture Edits Between AFATDS OPFACs Become Garbled:** If a posture is created at an AFATDS OPFAC and sent to a subordinate unit, and then edited and resent, this may produce unexpected results at the subordinate unit. In one case, an MLRS Bn FDC created a posture for a subordinate battery for M28 rockets. Then the Bn FDC edited this same posture, changing the munition type to M28A1. When the posture was resent, the battery now had postures for M28 and M28A1. Rather than updating the old posture, the battery AFATDS interpreted the edit as a "new" posture. At this point, the operator at the battery FDC is unable to delete the posture. To avoid this problem, operators should not edit existing postures, but rather delete them, create new ones with the correct data and resend. If an OPFAC gets “stuck” with one of these undeletable postures, operators should edit it so that the associated munition quantities are zero. This will prevent the posture from having any effect on operations.

72. **Adding a Bypass Difficult to a Route Segment causes an update error**: Do not add Bypasses to a Route Segment. When the operator adds this it causes an error update message to display on the segment window. From this point on no route segments can be created and eventually AFATDS reconfigures. AFATDS must be restarted or the reconfigurations will continue when Moves are accessed. This may occur when any obstacle is added to a route.

73. **Cannot Filter MIDB Unit Files:** Filter features for the MIDB unit files do not work in this software release.

74. **JMUL import doesn't remove missing unit from System Attack Parameters:** When importing a new JMUL to an AFATDS with an existing database, and reconciling the new unit names with existing unit data, AFATDS is designed to automatically remove data that is associated with units that are no longer part of the JMUL. This data removal process does not work correctly for the FS System Attack Parameter Guidance table. If your old database contains an FS System Attack Parameter unit name that is not part of the new JMUL, AFATDS fails to remove this unit name from the window. If you process a mission, and AFATDS tries to send a fire request to this non-existent unit, you will see an error message, indicating that the unit cannot be found. This problem is easily corrected by deleting the obsolete unit name from the window, or replacing it with a new, valid unit name.

75. **Named Distribution Lists May be Deleted When JMUL is Imported:** After importing a JMUL, be sure to inspect any named distribution lists you may have on file. The import may remove some or all of the units assigned to the list. Adding the units back and saving the updates will make AFATDS distribution behave normally again. This problem does not affect distribution criteria

76. **PAH, TAH, MFP Geometries May Not Clear from Map:** When an ATACMS or MLRS DPICM Guided or other "PAH TAH" producing mission is processed, AFATDS is designed to remove automatically any mission related geometries (i.e., PAHs, TAHs and MFPs) when the mission is complete (i.e., the mission fired report is processed). In some cases, these geometries are not removed automatically. This most often happens when a mission is denied somewhere in the mission chain and is subsequently reprocessed. To overcome this problem, simply delete the residual PAHs, TAHs and MFPs when the mission is complete.

77. **MIDB Facility Names and Unit Names Not Always Shown on Target Window:** When you create an AFATDS target from an MIDB facility if the facility name is longer than 35 characters, the Facility Name field on the Basic Target Information window is not populated. When you create a target from an MIDB unit, the MIDB Enemy Unit ID field is populated. If the Enemy Unit ID is longer than 35 characters, however, only the first 35 characters are displayed. These problems are not encountered when creating ASRs from MIDB facilities and units.

78. **Cannot Amend an ATACMS BAT Mission with Child Targets:** AFATDS is not amending segmented ATACMS BAT missions, i.e., missions that produce "child" targets. This problem can be avoided by limiting the ATACMS BAT target size to 4 km or less, and the number of target elements to less than 72. Targets this size do not require segmentation.

79. **Registration Mission Remains on Active Target List After EOM Processed:** After processing a registration mission, the mission may remain on the active target list. If this happens, simply open the Active Target List and select Mission Fired Report for the registration mission. This will make it go inactive.

80. **GDU Weapon Status Monitor Does Not Display ACK Response for AMC FFE2 Commands:** If you process an AMC fire mission at a GDU unit, and it includes an FFE2 phase, the ACK response from the GDUs is not displayed on the Weapon Status Monitor window for the FFE2 fire commands. The READY response is displayed when the guns report Ready, however. Mission processing is not adversely affected, other than the absence of the ACK for the FFE2 commands.

81. **Detailed Attack Analysis Does Not Work Properly for Air and Aviation Units:** You may encounter this issue if your OPFAC is running Detailed Attack Analysis, and you have air or aviation units available for analysis; or your OPFAC commands an air or aviation unit. AFATDS is not always generating solutions for air and aviation units when detailed attack analysis is performed. You can overcome this problem by entering air and/or aviation attack methods for the target types that you will be likely to employ air or aviation assets against. So long as there is an air/aviation attack method on file for the target type in question, AFATDS will generate an air/aviation attack option.

82. **Rounds Complete Not Forwarded to Observer for Quick Smoke:** The final Rounds Complete command is not being forwarded to the mission observer when a Quick Smoke mission is processed. The Rounds Complete command will have to be sent voice or via freetext message. The Quick Smoke mission ends automatically when rounds complete has been received from all participating weapons. AFATDS does not process any corrections or subsequent mission commands (e.g. 'repeat') once the FFE phase of the Quick Smoke mission begins.

83. **3rd Round of CPH PRI TGT Msn Fired When Ready:** AFATDS is supposed to apply and At My Command method of control for subsequent rounds in a copperhead priority target mission. If you process a Copperhead Priority Target mission with a volume of fire of 3 rounds, the third round of the mission will be fired "when ready", however. Round 1 is fired when ready, as expected; round 2 is fired AMC and AFATDS forwards the Ready status from the weapon to the observer. But, commands for the third round are sent with a "when ready" method of control. This problem can be avoided if the volume of fire for the Priority Target Mission is something other than three (e.g. 2 or 4).

84. **C2PC EMT Connection Management Window Sometimes Fails to Open:** If you are using EMT with C2PC, you may find that the connection management window sometimes fails to open on startup. If this happens, go to the Injector Manager window. Reselect the EMT injector, and insure that it is listed first. Also insure that the Overlays and Track Plot injectors are selected.

85. **Deleted**

86. **Execute Resupply and Send Unit Basic Load Buttons Don't Work:** The Execute Resupply and Send Unit Basic Load buttons on the Ammo on Hand window were designed to send resupply orders and information to Crusader resupply vehicles. These buttons do not function, because Crusader requirements were not fully implemented. It is possible to set resupply thresholds, and have AFATDS notify you when a unit's supply level crosses a threshold, but it is not possible to send the Execute Resupply order, or Unit Basic Load information.

87. **Deleted**

88. **Azimuth of Fire Value in Record of Fire Expressed as True North Azimuth:** The azimuth of fire value recorded in the record of fire is expressed in relation to True North, rather than Grid North. Users should keep this in mind when analyzing data in the record of fire.

89. **Deleted**

90. **Deleted**

91. **Can't See Full Hostname on 220C Network Settings Window:** The Hostname field on the 220C Network Settings window is not large enough to display all hostnames completely, and the display is not left justified. What you see is the last (rightmost) 30 or so characters of the hostname. You can see the full hostname by placing the cursor in the Hostname field and using the directional arrow keys to scroll left and right. If a Hostname entry does not appear to be correct, be sure to inspect the entire Hostname before making a change.

92. **Displayed Default Detailed Net Settings Wrong for 220C Nets:** The default values displayed in the Busy Detect field in the Detailed Net Settings area of the 188-220C Networks window may be incorrect for some communications configurations. AFATDS is sending the correct Busy Detect time value to the modem. The value displayed in the window is incorrect.

93. **C2PC and EMT Allow Different CGRS Parameters:** If you are using the new C2PC - IOS interface, running C2PC with an EMT injector, you may encounter this problem. EMT supports Common Grid Reference System (CGRS) values that C2PC does not. EMT, for example, allows subbox counts of 1, 4, 9, 16 and 25, while C2PC allows 2, 4 or 9. C2PC does not allow grid sizes smaller than 10 minutes by 10 minutes, while EMT does. When using C2PC with EMT, it is important to limit the CGRS to parameters that both systems support.

94. **AFATDS Won't Shutdown:** We have encountered this problem intermittently. When the operator goes to shutdown AFATDS, it does not shut down completely. If this happens, try removing the SPTCIMs. The problem is apparently caused by the absence of an appropriate software response from these devices. Removing the SPTCIMs gets AFATDS out of this "awaiting response" state and allows the shutdown to continue. It is possible that the entire workstation will experience a core dump and processing halt when the SPTICMs are removed. If this occurs it will be necessary to cycle power and completely reboot the workstation following the halt.

95. **Deleted**

96. **Unit Configuration Window May Hang With Bad SPTCIM:** If you select the Refresh option on the Unit Configuration window, and the window grays out and stays "frozen", you probably have a bad SPTCIM. If this happens while you are in the middle of operations, you can continue to operate normally by moving the Unit Configuration window out of the way (i.e., behind the map window and other AFATDS windows). At your first opportunity, you should exit AFATDS, shut down the workstation, remove the bad SPTCIM, restart the workstation, and restart AFATDS. As stated in #94, it is possible that the removal of the SPTICMs will cause a core dump and processing halt. The workstation must be power cycled following this processing halt.

97. **Editing Planned Communications Configuration Produces Bogus Alert:** If you create a planned communications configuration, using standard network settings, then subsequently edit the network, you may see an error message that indicates there was an error accessing the database. But if you close and reopen the Communications Workspace, and view the planned network again, your changes should be reflected. Simply ignore the repetitive error message.

98. **Units With Indirect Communications Routes Are Not Shown in ATI TCRIT Window:** You may encounter this problem if you are interoperating with ASAS or TES or other sensor/intelligence systems capable of processing the ATI TCRIT message. In order to send this message, you must have a direct communications route to the end system. It cannot be relayed through another system.

99. **AFATDS May Reconfigure When Large MIDB Files Are Saved:** When receiving large MIDB files, if you try to save both unit and facility files at the same time, this may cause AFATDS to reconfigure. If this happens, then neither file will be stored, and you will have to request the data again. For best results, we recommend that you save the files one at a time, and wait for the first save to complete before attempting to save the other file.

100. **Build New Communications Networks When Switching from Pkg 11 to VMF R5 Paladins:** You may encounter the following problem if you have a Paladin network set up, and you change the Paladins' end system types to VMF R5. AFATDS deletes any existing communications routes when you change the end system type. This behavior is expected. After making the change and rebuilding the routes, however, you may experience an immediate network failure when you try to send a message to one of the VMF R5 Paladins. In some cases, AFATDS may shut down altogether. You can avoid this problem by changing the Paladin device types, creating a new 220C network, and then connecting the Paladins to the new network.

101. **Don't Open a Second Archive Communications Setup Window:** When archiving communications setup data, be careful not to open more than one "Archive Communications Setup" window. Opening a second window from the Communications Configuration window may cause AFATDS to reconfigure. AFATDS should recover without any loss of data.

102. **Typing Numbers in the Communications Configuration Field When Creating a Communications Configuration May Yield Unexpected Results:** When selecting one of the standard communications configuration settings when building a new network in the Communications Workspace, we recommend using the menu pulldown to select the desired configuration. It should be possible to type in a number and have AFATDS select the corresponding standard configuration, but this feature does not work for all possible values.

103. **Wrong INC Software Version Displayed:** If you are configuring an IP network that uses an INC 188-220 adapter, and select the "Next" button on the IP Net Information window, AFATDS will launch the INC 188-220 Information window. The first field on this window is supposed to display the INC software version, but the version displayed is incorrect. INC_S/W _REL_5_1 should be displayed, rather than 5_0.

104. **Coordination Based on COF Rule is not Shown at Intervention:** If you set up the Coordination of Fire rules to cause AFATDS to send missions to selected agencies for approval, AFATDS does not display the coordination at IP. The mission status "gumball" will be yellow if a COF rule is met, but you will not see anything when you select the "View Coordination" window. If you approve an attack analysis option that requires coordination with a COF agency, AFATDS will automatically send the coordination request to the COF agency, and it will populate the Coordination Requested Icon. When you select the Coordination Requested Icon, AFATDS now displays the view coordination window. When you highlight the Responsible Unit, AFATDS shows "abatis" in the Type field (it should read "COF"). The coordination request appears normally and behaves normally at the COF agency. When the COF agency approves the request, AFATDS processes the approval without error. Likewise, if the COF agency denies the request, AFATDS processes the deny.

105. **Must Enter Lot Codes for Mortar and Naval Munitions:** If you are entering ammunition data for mortar and naval units locally at AFATDS, you must now provide a manufacturer's lot code, or the data will not save properly. A single character is sufficient for the manufacturer's lot code.

106. **Edit Unit Range Fan Icon Drop Down Menu Behaves Inconsistently:** When using the Unit Icon drop down menu to edit a unit's range fan, you may have difficulty making entries when azimuth of fire zero is selected. You can avoid the problem by editing the range fan from the Detailed Unit data tab.

107. **Planned Geometries Have Solid Lines in AFATDS:** AFATDS is designed to display geometries that are not yet in effect with "broken" or "dashed" lines. Due to a problem with the JMTK software, AFATDS now displays planned geometries with solid lines

108. **Problem Printing with Star Office on Laser Jet 4000N Parallel Printers:** Printing Star Office documents with the 4000N printer typically produces an error message that says "Load A4 in Tray 1". This is due to the default paper tray setting in Star Office software. If you encounter this problem, take the following steps:

    1) **Cancel the current print job.**
    2) **In Star Office, select Format => Page => Select Page Tab => Format=> Letter**
    3) **Print the Star Office document. It should now print normally.**
    4) **This procedure must be repeated with each Star Office document.**

109. **Add to Target List Option Not Sensitized for Enemy Units in Plan/Phase:** If you try to create a target from an enemy unit in a plan/phase, the "Add to Target List" menu option (in the Unit Workspace window) is not selectable. You can select the "create target" option from the enemy unit icon pop up menu, however. The "Add to Target" selection works properly in the Current Situation.

110. **Plan/Phase Tab on JMTK Map Not Selectable:** This problem may occur if you shut down AFATDS with a Plan/Phase situation open, and then restart AFATDS. The plan/phase tab will be visible on the JMTK map window when AFATDS is done initializing. If you select the plan/phase tab first, however, before selecting the Current or World tabs, the plan/phase map opens, but several items on the menu bar are not selectable. Selecting the Current Situation tab, and then re-selecting the plan/phase tab restores the menu items to full health.

111. **Unexpected 'Red Gumball' for Missions with Widely Separated Aimpoints at Fire Units**: When executing illumination range spread missions, or engaging a long linear target at a GDU fire unit, AFATDS may unexpectedly return an incapable option for targets that should be well within range. The problem stems from the manner in which AFATDS and NABK select a propellant charge to fire when none is specified. Charge selection for the initial aimpoint is left to the NABK. AFATDS then makes this charge mandatory for the remaining aimpoints in the mission. If the initial aimpoint happens to be the closest to the firing unit, the charge that is adequate for that aimpoint may not be sufficient for the most distant aimpoint. If NABK cannot generate a valid ballistic solution for all aimpoints, then the fire unit is considered incapable. This problem can be overcome by recalculating the mission, specifying a propellant charge that is sufficient to range all of the mission aimpoints.

112. **2 Gun Illum Method of Fire Produces Illum Range Spread Result:** If you specify "Two Gun Illum" as the method of fire for an illum mission, either via the Initiate Fire Mission window, or with an external device, AFATDS erroneously interprets this as "illum range spread" mission. You can generate a two gun illum mission by initiating a FFE mission at AFATDS, specifying shell illum/time in effect, and two guns to fire for effect.

113. **Do Not Enter Punctuation in Role Field on PASS Connection Window:** If you are connecting to the PASS server, when specifying a Role name, do not use special characters in the Role name. Certain characters, such as colons, are used as field delimiters, and could disrupt communications with the server. Stick to alphanumeric characters in the Role name.

114. **Ignore INC Firmware Needs Update Message:** When activating an INC network, you may see an alert message that indicates the INC firmware needs updating. This is probably not the case. If the network successfully activates, then the INC firmware is probably correct. Simply ignore the warning message.

115. **Duplication Checks Not Working Properly:** There are several problems relating to the Duplicate Targets window:

    a. Selecting the "combine" option for target lists in a fire support plan appears to work, but when the target list is re-displayed with the "continue" button, the "combined" targets are still displayed as separate entries. The "combine" feature works correctly in the Current Situation.

    b. Selecting the "edit" option on the Duplication check does not open an edit session for the highlighted target.

    c. When checking a large list with multiple duplicates, AFATDS highlights the first set of duplicate targets on the list, but when the Continue button is selected, AFATDS may not show the next set of duplicate targets. Rather, it advances to the last set of duplicates on the list.

    The following procedures are recommended to overcome these problems:

    - When checking for duplicates, use the Duplicate Targets window to identify duplicates one set at a time. Cancel the Duplicates window and go back to the target workspace to deal with the first set of duplicates (i.e. delete the unneeded targets), save the target list, and select the "Check for Duplicates" option in the target workspace again. The Duplicate Targets window will only be launched if AFATDS detects duplicates. When the Duplicates window is no longer launched, the list should be free of duplicate targets.

116. **Range Fans Intersecting with Unit Icons Interferes with Seleting Unit Icons:** If Range fans are displayed on the JMTK Map, and the range fans intersect with unit icons, you may have difficulty highlighting the unit icons covered by the range fan. You may also have difficulty highlighting the unit whose range fan is being displayed. If this happens, edit the unit with the interfering range fan from the Unit Workspace, select Find on Map (this will highlight the unit icon), then select Filter from the Map menu item and turn off the range fan.

117. **Unable to Create New Units After a New Unit is Created, then Deleted:** This problem may be encountered if you create and then subsequently delete a new unit. Once this is done, AFATDS may prevent you from creating new units. The following procedure will overcome this problem. After deleting a newly created unit, select and edit any other friendly unit in the workspace. Now it should be possible to create new units.

118. **Time Between Rockets/Missiles Processed Only at MLRS Battery:** If an AFATDS OPFAC initiates a mission for a rocket/missile unit to fire, and specifies a value in the Time Between Rockets/Missiles field on the Munitions Tab of the IFM window, this value is not sent to the MLRS Battery FDC (or other AFATDS OPFAC that controls the rocket/missile units). When this entry is made at the MLRS Battery FDC, it is reflected in the fire order sent to the launcher.

119. **Export/Print of JMUL with FST Units Fails:** When printing the JMUL using AFATDS 6.4, you will notice that AFATDS launches the Star Office application, and exports the JMUL data to Star Office for printing. Star Office provides utilities for formatting the printout, modifying column widths, etc., which make the printout easier to read. If your JMUL includes FST devices, the Star Office application won't start. Be sure to "filter out" any FST entries from the JMUL display before printing.

120. **Message Log Won't Open:** You may encounter this problem if you are using UCU hardware. AFATDS begins posting low level alert messages when the AFATDS message log begins to fill up. These messages are informational. System performance is not affected because the message log is full or nearly full. If you try to open the message log after seeing one of these messages, the Message Log window may not open. If this happens, ignore the alert messages and continue normal operations.

121. **Unit Selection List Not Shown on General Unit Data Tab:** This problem occurs most frequently just after AFATDS is started. When the operator edits a unit, opens the General Data tab, and tries to edit the Current Command Unit ID or the Current Supported Unit ID, the expected unit selection list is not displayed. Closing the Unit Workspace and clicking the System Tab, followed by the Current Tab, on the JMTK map, then reopening the Unit Workspace makes AFATDS behave normally again.

122. **Mission Saturation Entry Ignored on FS System Attack Parameters Window:** For OPFACs using FS System level attack analysis, AFATDS is ignoring entries made in the Saturation field for fire support systems. This entry is supposed to prevent AFATDS from assigning more missions to a unit than is specified in the Saturation field. The operator can overcome this problem is various ways, e.g. select alternate attack options at intervention if the "saturated" unit is recommended; use the FS System Tasks guidance to spread the mission load among fire support systems, etc.

123. **Planned Naval Ship Units Display Adindan Unit Datum:** When a plan is created and naval ship units are copied into the plan, AFATDS displays "Adindan" in the Datum field on the Basic Unit Data window. This is a simple display error, and does not reflect the naval unit's true datum. When the naval unit is implemented into current, the correct datum will be displayed again.

124. **AFATDS Does Not Populate HOB in Fire Order (K02.40) Message to Paladin:** This problem will be encountered if you send a fire order with a "non-standard" height of burst to a "ready" Paladin (i.e. the Paladin is computing its own firing data). AFATDS does not send the HOB value in the fire order. As a result, the Paladin AFCS assumes that standard HOB for the projectile/fuze should be used, since none was sent in the fire order. If you are trying to shoot "illum on the deck", (i.e. shell illum with a very low HOB, so that it burns on the ground as a marking round) for example, Paladin will fire illum with the normal 600 meter HOB. You can overcome this problem by putting the Paladin in "stationary" mode, so that AFATDS will send it fire commands rather than a target location. AFATDS correctly computes firing data for whatever HOB is entered on the More Mission Data Tab – Initiate Fire Mission Window.

125. **Record of Fire RO Printing Prevents Receipt of ROF Data:** RO Printing is an AFATDS feature that allows the user to print incoming and outgoing messages. This feature is activated from the Main Menu (Messages => Configure Msg Setup => Level => Types => <select message type> => Print => Receive (or Transmit). If this feature is activated for received Record of Fire (ROF) data, it appears to interfere with processing of the data. When receiving ROF data from Paladin, insure that RO printing for ROF data is not active. NOTE: This feature is switched off for all message types until the user activates it. If the user has never touched it, RO printing will be inactive.

126. **Menu Bars Become Insensitive When Current Situation Is Opened:** The following problem is sometimes encountered shortly after startup. The user selects Situations => Current and expects the Current map to open. In some cases, the main menu and map menus "gray out" and become unselectable. If this happens, select the JMTK "world map" tab, and re-select the Current map tab. This restores the menus to their normal state.

4.2 Known Problems with Effects Management Tool / FSCOORD Sync Tool (AFATDS Client)

1. **Target Data Cannot Be Deleted From Client:** Client operators may encounter difficulties deleting target information. If the AFATDS is performing Target Accumulation, deleted targets "remain" on the EMT, because they become part of the Target Accumulator. If you are not interested in Target Accumulation and want deleted targets to be removed from the EMT, take the following action. Contact the AFATDS operator and have him open the Target Accumulation window, set the value to zero, and okay the window. Okay the window even if the window already displays zero. Also ensure the local accumulation setting is set to zero on the EMT (find this setting in the preferences window). Now deleted targets should disappear at the client.
2. **Windows open behind the main window on both C2PC and JMTK:** Many windows open behind the main window, this happens more on C2PC than JMTK, but it does happen on both. Geometry, & Preferences are of particular interest. The operator can bring the window forward by selecting the window icon on the task bar or use the Alt Tab to bring the desired window into focus.
3. **The operator should not save a map on C2PC:** When using EMT with the C2PC map tool, the operator should NOT select FILE, SAVE MAP from the C2PC menu bar. If a map is saved, C2PC does not "know" how to build the window and menu bars when the focus is changed from one injector to another (for example, when the TDBM tab is selected and then the EMT tab is selected in the tree diagram). Saving a map will either cause C2PC to fail on startup or to perform erratically. If this happens, the C2PC should be exited and the saved map deleted from the c:\program files\usmc\data\local\(your user name) folder. C2PC can then be started and EMT will function properly. This problem does NOT apply to the use of CADRG or other map backgrounds on C2PC.
4. **Unable to Perform Collaboration if Connected via Secondary LAN:** EMT collaboration tools only function properly if the EMTs are connected to the AFATDS server via the primary LAN. They will not function over the secondary LAN.
5. **No Import/Export Capability for FST Communications Settings:** FST is supposed to provide a capability to import/export communications settings from/to and Excel file. This feature is not working.
6. **Adding a fuze always defaults to PD.** When adding a fuze to a Unit and selecting the category type of "MOFA", then selecting "add", a new window opens. This new window always defaults to PD no matter what category selection has been made.
7. **Area Violation alert does not contain all selections.** When the Area Violation Alert comes up on EMT it only contains selections for "Continue" and "View/Edit Mission. The Alert should also contain selections for "Checkfire" and "View/Edit Friendly Unit Check Area".

8. **Initiating or Establishing targets displays incorrect Target number.** When Establishing a Target with an operator specified target number, you may see an alert that says: "Initiating Fire Mission on target AA0001". The alert shows the “default” target number (AA0001) rather than the one entered. Also, the alert appears when just establishing a target, whether you initiated a fire mission or not. Ignore the alert message. EMT has assigned the operator specified target number. The alert message contains an erroneous number.
9. **Creating a storage site the View / Edit window never comes forward.** If you edit stored assets (i.e., stored ammunition) for a unit, and create a new storage site (using the ADD button), when the Storage Site window is closed, the Stored Assets window "disappears" behind the map. It appears as though the window has closed, but it is simply behind the map. You must drag the map out of the way, or select the window icon at the bottom of the screen to get at the window.
10. **Air Support Request Overlay Filter Not Working Properly:** EMT has a new feature that allows the operator to filter the display of air missions, based on data associated with the mission. Specifying certain filters for “Mission Type” (e.g. GATK: ground alert attack) appears to cause all missions to be “filtered out” of the display.
11. **Deleted**
12. **Deleted**
13. **EMT Allows Bigger Durations Than AFATDS for Air Corridors:** When building oncall air corridor geometries on EMT/FST, EMT allows bigger time limits than AFATDS supports. If the air corridor geometry exceeds the AFATDS limits, it is not processed. To avoid this problem, limit the maximum critical time and maximum corridor segment effective times as follows: Maximum critical time should not exceed 8559 minutes. Maximum segment effective time should not exceed 1440 minutes.

    NOTE: The "true" maximum critical time is 9999 minutes, but it is really the sum of the entry in the critical time field plus the critical segment max effective time. For example, if the critical segment is effective from 0 to 5 minutes for example, then the largest acceptable value in the critical time field is 9994 minutes. 8559 minutes will always be acceptable, however, since the segment time cannot exceed 1440 minutes.
14. **Deleted**
15. **Deleted**
16. **Cannot Create "End of Month" ASL with FST:** When creating an ASL with FST that will transition from one month to the next (e.g. 310600ZOct04 to 010559ZNov04), be sure to manually enter the start and end times. If you allow them to default, FST will enter the wrong month in the end time, and will reject the ASL because end time is earlier than start time.

17. **EMT Software Does Not Uninstall Properly:** If it is necessary to reload EMT software on a computer that has already had EMT software loaded, the software load may not work correctly. To insure proper installation, perform these "pre-install" steps before loading software:
    a. Disconnect from the Server!
    b. Delete all off-line data stores.
    c. Shut down EMT/FST
    d. Uninstall the EMT software using the Windows Uninstall feature.
    e. If FST was installed, uninstall the Microsoft SQL Server Desktop Engine. (It may be necessary to stop services during this uninstall.)
    f. Delete the file folder in C:\Program Files\Microsoft SQL named 'MSQL$FST'.
    g. Reboot the PC.
    h. Follow normal procedures for installing the EMT software. At some point, a minimized DOS window will appear in the taskbar. If you open the window, it will display the prompt "Press any key to continue." Press a key, and the software load will proceed.
18. **EMT Does Not Display or Allow Edit of Drawing Object Names:** When using the EMT collaboration feature, EMT does not allow the user to specify a name for drawing objects, or edit the default names assigned.
19. **Active Targets Displayed at FST Show a Predicted Impact (Enemy) Firing Vector:** When active targets are displayed at FST, a bogus enemy firing vector, drawn from lat 0 long 0 to the target location is displayed. These enemy vectors should be ignored.
20. **EMT Munition Min and Max Ranges Do Not Reflect Weapon Capabilities:** Projectile min and max ranges shown on EMT vs. AFATDS do not always match up. When unit data is examined in EMT, the projectile min and max ranges shown in the Ammunition window do not reflect the capabilities of the unit's weapon system. The values displayed are the greatest associated with the projectile model in question. AFATDS takes into consideration the weapon model with which the unit is equipped, and displays the min and max ranges for the projectile/weapon combination.
21. **Comm Network on FST Won't Start:** If the FST communications network refuses to activate, try reseating the SPTCIM (or TACLINK 3000) card. This will often allow the network to activate successfully.
22. **FST Mission Status Icons Lag Behind AFATDS Server:** The mission status icons on the FST Mission Status Window do not update properly. The mission status icons displayed in the mission Tree List, however, display correctly.
23. **Deleted**
24. **Deleted**
25. **Deleted**
26. **Deleted**

27. **Deleted**
28. **Deleted**
29. **Deleted**
30. **Warning Messages Are Not "Brought to Front" on Windows XP Laptop:** If you are using the FST on computer equipped with the Windows XP operating system and experience a lost connection with the server, you will not see the "Server Has Shutdown" warning message, because it appears behind the other FST windows. You can see the alert by minimizing other windows, or bring the warning to the front by using the Alt-Tab keys.
31. **Request "Sub" Killboxes by Name Only:** When using the CGRS tool on EMT/FST, if you wish to request a "sub-killbox", i.e., a killbox that is smaller than a full size CGRS grid, use the "By Name" tab in the Request Killbox window only. Using the "By Location" or "By BE Number for a "sub-box" may produce a sub-killbox that overlaps full size killboxes.
32. **View Option Does Not Highlight Selected Track in Track Workspace on EMT-C2PC:** When using EMT-C2PC and selecting the View option from the map icon pulldown or from the "Tree" structure to the left of the map window, EMT opens the Track Workspace as it should, but does not highlight the selected track. You will have to sort or filter the workspace to find the desired track. You can see detailed information about the track by selecting the "Properties" menu option.
33. **Must Deactivate Firewall to Use EMT or FST on Windows XP Laptop:** If you are running FST software on a Windows XP platform, you must unblock the Windows XP firewall for the EMT or FST software to run.
34. **Disconnecting EMT Causes C2PC to Shut Down:** If you are using C2PC with EMT as an injector, and want to discontinue inputs from EMT but continue to use C2PC, do NOT use the EMT Connection Manager to disconnect from the server. This will cause C2PC to close the map. To discontinue EMT inputs, go to C2PC Tools => Injector Manager, and "uncheck" EMT. This will stop EMT inputs, but will not affect other injectors, and will not stop C2PC.
35. **NLT for a Preplanned SEAD Air Mission Uses Operational Until Time:** If you are creating a SEAD program at EMT/FST, and you select the ASL option (i.e., use air to engage the SEAD target rather than surface fires), be sure to check the NET/NLT times associated with the individual targets. EMT will allow you to make inconsistent entries for ASR start and end times and ASL start and end times. When the ASL is processed at AFATDS, AFATDS automatically updates the NET, if necessary, to conform to the ASL start time, but the NLT is unchanged. If the NLT is earlier than the new NET, the mission will be denied.
36. **Weapon Model Does Not Display at FST for M777A2 Units:** When viewing detailed unit data for an M777A2 type cannon unit at FST, the weapon model field does not populate, and the max range is displayed as 0. Other weapon models display without error.

37. **Many EMT Windows on UCU/CCU/TADPOLE Need Resizing:** If you are running EMT on your AFATDS platform, you may notice that many windows appear to be missing key elements (e.g. action buttons). If you grab a corner of the window and "drag" to resize it, these features should become visible.

38. **EMT/FST Color Preferences Not Updating Properly:** When color preferences are changed for a category of objects (e.g. rocket units) on EMT/FST, the changes do not take effect unless the EMT operator logs off and logs in again or performs a resync with FST.

39. **Searches for Report Data May Time Out on FST Using Radio Communications:** When using the Reports – Search function on the FST, you may have trouble generating some reports when connected via radio. Because of the limited bandwidth and large volume of data associated with some reports, the function may "time out" before transmissions are complete. We recommend that you use the Report feature sparingly from the FST. Limit report criteria as much as possible, so that FST will be able to successfully retrieve the data.

40. **Timeline Playback Stalls:** When using the Timeline playback feature, the playback sometimes stalls for no apparent reason. When this happens, try selecting the Pause button and the Play button in sequence. This should make the playback resume.

41. **(Battalion) Task Force FSE Icon (AFATDS) Displays as Division Icon at EMT:** Due to a translation error, a battalion task force FSE icon on the AFATDS display shows up as a division icon on EMT, i.e. the echelon symbol over the unit icon is "XX".

5.0 OPERATOR NOTES

This section describes perceived problems that commonly arise from lack of understanding regarding AFATDS behavior and new software features. The following items may help the operator avoid frustration when confronted with new and unfamiliar system behavior.

1. Target Lists are now paged: Two key changes in the behavior of the Target List windows have been made that improve the speed of these windows dramatically. The columns are still configurable by the operator, but the width of the window is now fixed to about 110 characters, not the previous 400 characters. Eliminating the horizontal scroll was needed to increase the speed of opening this window. In addition, the Target Lists are now paged in a manner similar to the Master Unit List window, where 100 targets are displayed within each page.
2. Current Situation disappears when exiting a plan: The JMTK software automatically brings the "System" tab to the foreground of the map whenever a map tab is removed. Typically this will happen whenever you exit a Plan/Phase. This may look to the operator as if the Current Situation has disappeared. This is not the case. The Current Situation can be easily returned to the foreground by clicking on the "Current" tab in the map window. A similar situation occurs when you exit AFATDS with a FS Plan open, and then restart AFATDS. The FS Plan Tab is displayed, but does not become sensitive until the operator selects the Current tab again. This causes AFATDS to behave normally again.
3. CMP Window Comes Up Blank: CMP windows behave differently from AFATDS windows. The CMP window should always be opened by selecting the Mailbox icon at the top left corner of the screen. The CMP window should NOT be exited using the "File => Exit" option. This terminates the CMP application. (If you do this, AFATDS automatically restarts CMP, so it will be accessible again in a few seconds.) The recommended approach is to "minimize" the window using the "dash" button on the upper right corner of the window frame. Unlike most minimized windows, however, do not use the "icon tray" at the bottom of the screen to reopen the window. The CMP window will not refresh properly if this is done (i.e., the window will appear blank). Use the Mailbox icon in the Main Menu bar to re-open the CMP window, or refresh it if it appears blank It may sometimes be necessary to minimize the window and re-open it using the mailbox icon to get the window to display properly.
4. Non-standard G/VLLD codes can be sent to IFSAS by AFATDS: AFATDS allows the operator to enter G/VLDD codes that are not valid for the G/VLDD device itself. The AFATDS value range is based on the VMF Message standard, which is designed to support many laser designator devices. Some of these devices support more values than the G/VLLD. If this is done, the message will fail at the IFSAS whenever this data is sent from AFATDS. Operators need to ensure that a correct G/VLLD code is entered. Correct codes are 3 digit numbers composed solely of the digits between 1 and 8 inclusive.

5. Geometries received from external systems: If an external system (such as an IFSAS) sends a geometry to AFATDS, then the sending unit becomes the establishing unit for the geometry and the data sent with the geometry updates the data within the AFATDS database. If the transmitting system does not provide values for all fields, then AFATDS will fill these fields with default data (e.g., minimum altitude default is –32797 feet).

6. Modem channel failures: Modem channel failures may occur and will require the operator to re-enable the affected network. These failures usually indicate some problem in the environment that is interfering with the radios, such as a radio locked in transmit mode. There is a known problem with the SIP radios when set to 16K SC/PT mode where it can get locked in transmit mode. This mode should not be used if possible so this problem can be avoided.

7. AFATDS Login protection: A situation can occur where the operator cannot login using his/her username/password. This is actually a result of a security feature that is invoked whenever the operator fails three consecutive login attempts. This is not a problem with the software but may be interpreted as one if the operator is unaware of this security feature. If this happens, the security manager must "unlock" the user profile:

   a. Log-in as secman

   b. Open an X-Term by selecting simultaneously the Ctrl, Alt and Left Arrow

   c. Type "cd /h/COE/Comp/PSM/bin"

   d. Type "./PSM_unlock username" (where username is the operator's username)

8. Weapon Numbering: When building Paladin cannon and MLRS launcher "single weapon" units in AFATDS, be sure to designate the Paladin/MLRS launcher as weapon number ONE in the weapon data window. AFATDS will automatically select weapon number one for you when you create the unit and enter weapon data. Errors in processing may result if weapon numbers other than one are used for Paladin and MLRS launcher units.

9. Unit & Weapon Azimuth of Lay: The azimuth of lay for AFATDS cannon units appears on both the Detailed Unit Data screen and the Weapon Data screen. The Detailed Unit Data azimuth of lay is used to define the unit's range fan, which is used in AFATDS tactical fire control processing. A target must lie within a unit's range fan in order for AFATDS to select that unit for firing. The weapon data azimuth of lay is used in ballistic calculations, and must be entered for each individual weapon. It is essential that azimuth of lay be entered for each weapon AND on the detailed unit data screen, and that all of the entries be equal!

10. Massing large number of Fire Units on a single target: When generating "mass attack" options, AFATDS is limited to a maximum of 20 units per mission. If your OPFAC is running Detailed Attack Analysis and you are analyzing more than 20 Fire units (Example - you are a DIVARTY FDC controlling 3 Paladin Battalion with 18 individual Paladin Fire units each. This is 54 Fire units.), then AFATDS will not generate a capable option for a "DIVARTY" massed option. This is because AFATDS wants to mass all 54 Fire units (remember each individual paladin is a separate fire unit when running Detailed Attack Analysis), but is constrained from adding more than 20 units to the option. Since 20 is not 2/3 of 54 (at least two thirds of the required number of tubes must included in the option before AFATDS considers it "capable") then AFATDS indicates that no capable mission solution could be generated (red gumball). This problem can be overcome by using Unit Attack Analysis. The reason Unit Attack Analysis was developed was to support attack analysis at "higher echelon" FA CPs. Massing the DIVARTY will not be a problem if you run Unit Attack Analysis at the DIVARTY AFATDS, because subordinate FA CPs are analyzed and considered in the attack option, rather than individual fire units. Remember that ammunition and weapon summary data must be sent from subordinate FA CPs to the commanding FA CP that is running Unit Attack Analysis.

11. Point locations in geometry windows and SPLL Commands window may differ: The operator can send deployment commands to an MLRS launcher using the SPLL Commands window, accessed through the unit data window, or the map icon. When the operator selects a point ID in this window, AFATDS automatically populates the location field with point's current location. If the operator selects "okay" or "send", the location and point ID are stored with the unit data. This provides the operator with a record of the location last sent (or stored) for a particular MLRS launcher. For example, if the operator opens the SPLL Commands window for launcher 1/1/A/2 /20, and selects Firing Point A2, AFATDS populates the location field with A2's current location (e.g. 6 51200 034 54300 130 +14). If the operator selects "send", AFATDS generates and sends an MLRS COMD message to the launcher, directing it to move to A2/6 51200 034 54300 130 +14, and saves the data in the SPLL Commands window with the unit data for 1/1/A/2 /20. If the operator subsequently updates the geometry point location for Firing Point A2 (e.g. 6 55000 034 55000 150 +14), and then reviews the SPLL Commands window for launcher 1/1/A/2 /20, the window still displays the last data entered in the window (i.e., A2 6 51200 034 54300 130 +14). If the operator wants to send the launcher to the "updated" firing point A2 location, he must "deselect" and "reselect" A2, which will cause AFATDS to populate the location field with the current point location stored with the geometry data (6 55000 034 55000 150 +14), and then select "send".

12. Accidental mouse clicks on the map can cause the map menus and tool icons to disappear from the Map Window: The operator can right click on the ICON in the upper left corner inside the map window and select:

    VIEW >> STATUS BAR TOGGLES >> TOGGLE MENUBAR and

    VIEW >> STATUS BAR TOGGLES >> TOGGLE TOOLBAR

13. Updating Geometries: AFATDS linear and area geometries are defined by multiple points. When AFATDS processes an update for an existing geometry, whether input by the operator or received from an external system, the update is performed on a point-by-point basis. Existing points that are not changed by the update remain part of the geometry. This behavior may lead to confusion if its consequences are not understood. For example, AFATDS receives a ZOR "99DIV" from an IFSAS device, which consists of 15 points, numbered 1 thru 15. Later, AFATDS receives another geometry message from IFSAS with an update for ZOR "99DIV", which includes new locations for points 1-12. Points 13 - 15 are still part of ZOR "99DIV", as far as AFATDS is concerned. If the locations for points 1-12 have changed substantially, then the new "99DIV" ZOR could have a very odd shape indeed. When modifying an existing geometry, the safest course is almost always to delete the existing geometry, and then enter and disseminate a new one.

14. Do Not Select Recalculate Option When Changing the Size or Attitude of a Target: AFATDS segmentation rules are complex, and vary according to weapon system and ammunition type. If you are dealing with a large target that may require segmentation, and you must modify the target size or attitude, it is best not to rely on the Recalculate option on the Intervention window. In most cases, it is better to deny the mission and initiate a new one with the correct target information.

15. Importing A New Master Unit List: Importing a new master unit list can create problems if not done properly. Follow this procedure when importing a new master unit list.

    a. **Start AFATDS**
    b. **Restore database. Maintain a copy of this database. Should the database with new MUL become corrupt, you can revert to this one and try again.**
    c. **Import new MUL. The new MUL will replace the old MUL.**
    d. **Backup the database.**
    e. **Exit AFATDS and restart.**

16. First Fire Mission After Startup Takes a Long Time: The first fire mission processed after startup takes much longer than subsequent fire missions. AFATDS does not start all of the services needed to support mission processing until there is a demand for those services. Therefore, processing time for the first mission includes a lot of "startup" time. This problem can be overcome by initiating a "warmup" mission after starting AFATDS. The "warmup" mission can also alert the operator to potential setup/data problems.

17. FASCAM Minefield Depth Does Not Exceed Module Size: When you initiate a FASCAM minefield mission, AFATDS does not restrict the target length and width that you select. However, the width entry that you make will be ignored. The actual minefield width will correspond to the "module size" for the selected munition and angle of fire. Low angle RAAM produces a width of 200 meters, all others 400 meters.

18. Mixed FASCAM Minefields Allowed: AFATDS now allows "mixing" of RAAM and ADAM munitions in FASCAM minefields. Angle of fire must be "High". RAAM must be fired in FFE1 and ADAM in FFE2. All selected projectile models must be either "long delay" or "short delay", i.e., you cannot mix "long delay" RAAM with "short delay" ADAM, for example.

19. **Deleted**

20. Check Attack Option Criteria Ranking When A Unit is being "Overtasked": If AFATDS appears to always select the same launcher, cannon, or fire unit as the recommended option, check your Attack Option Ranking Criteria (Mission Processing => Mission Processing Preferences window). Moving "Unit Load" to the top of the list will cause mission taskings to be equally spread among capable units.

21. Star Office Document Archiving: It is possible to save Star Office documents created on your AFATDS workstation to floppy disk. Here's how:

    a. **Start with a "DOS formatted" floppy disk. Most commercially available floppy disks come out of the box in IBM (i.e., DOS) format. (NOTE: The "Disk Utilities" function under the AFATDS Functions menu does NOT create DOS formatted disks. It creates disks compatible with the Solaris Operating System, suitable for recording AFATDS databases, among other things. If you do not have a DOS disk, you can create one using the procedure described in 22 below.)**

    b. **Insert the floppy disk into the workstation floppy drive.**

    c. **Select the "Mount Floppy" function under the AFATDS Functions menu (Start => AFATDS Function => Mount Floppy)**

    d. **An informational window displays that says "Mount Floppy Disk". OK the window.**

    e. **An information window appears that says: "Floppy is Ready".**

    f. **Start Star Office and create your document.**

    g. **When you are ready to save the document to floppy, select FILE => SAVE AS.**

    h. **Navigate to the floppy directory by clicking the small icon 2d from the right in the upper section of the window.**

    i. **Double click on the folder named "Floppy".**

    j. **Double click on the folder named "Floppy0" (this assumes you are using a blank floppy disk. If the floppy has previously created folders, these will appear. Select the one you want to save to.)**

    k. **Name your file and select SAVE.**

    l. **Eject the floppy when SAVE is complete. If you have a UCU workstation (no physical eject button) select the "Disk Utilities" feature under AFATDS Functions (Start => AFATDS Functions => Disk Utilities), and select the Eject option. If you have a CCU2 workstation, you can use the physical eject button.**

22. Creating a DOS formatted floppy disk: You can create a DOS formatted floppy disk at your AFATDS workstation using the following procedure (NOTE: you must have System Administrator access to do this):
    a. Login using your System Administrator user name and password.
    b. Insert the floppy disk.
    c. Select Start => Programs => File Manager.
    d. In the File Manager window, select File => Open Floppy.
    e. A Media Format window opens with title /vol/dev/rdiskett0/unnamed_floppy.
    f. On the lower portion of the window, select file system type PCFS (i.e., DOS).
    g. Click the Format button.
    h. When formatting is complete, the system displays a window that says, "sdtmedia_format has finished formatting the device."
    i. OK the window.
    j. A File Manager window opens. Select File and Eject.
    k. If you need to create more DOS formatted floppies, insert a new one and repeat the procedure. Otherwise, close windows and log off.

23. Paladin may UTE missions during heavy mission loads: Occasionally, the Paladin may send a UTE message when AFATDS sends an EOM on one mission and then a CFF on the next mission in close time proximity. To reproduce the behavior it is necessary for the AFATDS operator to select "Accept recommendation" or "Send" on the IP for mission 2 at about the same time the EOM for mission 1 is sent. Paladin will sometimes send back a UTE stating that the mission was refused because the Paladin already has an active mission. This problem can usually be overcome by reprocessing the denied mission, or by okaying the deny and initiating a new mission on the target.

24. "Number Lock" key disables the "Mouse Button" menu items: Clicking the mouse buttons with the cursor focused on the blank "AFATDS" window screen causes various selection menus to appear. If the "number lock" key is engaged, the selection menus are no longer accessible. De-selecting the "number lock" key solves this problem. This problem is a consequence of the common hardware /COE environment.

25. NET/NLT Cannot Be Processed By All Firing Systems: AFATDS allows the operator to specify a "no earlier than (NET) and a "no later than" (NLT) time in mission data. When AFATDS generates fire commands for weapon systems, it includes the NET and NLT times whenever possible. Not all systems are able to process this information, however. Paladin, for example, cannot process NLT time, and will reject a fire order that contains an NLT. The pkg 11 message interface does not provide a way to send NET time. The MLRS FCS can process NET and NLT times. Air support requests can accommodate an NET/NLT time. AFATDS 6.4 has been modified to mitigate this problem for cannon, mortar, and naval gun systems. When AFATDS processes a mission with a designated NET and/or NLT time, and the assigned units to fire are cannon, mortar, or naval gunfire units, AFATDS defers transmission of the associated fire orders until AFATDS system time is equal to or beyond the NET time. This will insure that the assigned units do not begin firing before the NET time. If a mission with an NLT time is assigned to cannon, mortar, or naval gunfire units, and the mission is still active when the NLT time is reached, AFATDS will automatically send an End of Mission message to these units. This will cause the assigned units to stop shooting shortly after the NLT time is reached. (It will take at least a few seconds for the EOM message to be received at the firing units.)

26. PTM Notification of Conversion to ATACMS Mission Fails if No Direct Comm Route to Observer: On rare occasions, an ordinary fire request received at AFATDS will result in selection of ATACMS for engaging the target. When this happens, AFATDS is designed to notify the mission originator via PTM that the mission has been "converted" to an ATACMS mission, and the processing AFATDS is now the "controlling unit" for the mission. If a non-AFATDS device (e.g. a FOS) initiates the mission, the PTM will not automatically go to the originator unless the AFATDS that originally selected ATACMS for the mission has a defined communications route to the observer.

27. Don't Fire Projectile M825 with M203, M203A1, or M232 zone 5 Propellant: The M825 (improved smoke round) should not be fired with M203, M203A1, or M232 zone 5 propellant. AFATDS will no longer allow you to select the M825 projectile with these propellants.

28. Archive Fire Support Plan to Jaz Drive Sometimes "Locks Up" System: The CCU2 hardware allows the user to archive fire support plans to the Jaz drive. Unfortunately, the Jaz drive does not always work reliably. When an archive attempt fails, AFATDS may be "locked" in an archive "loop". Rather than stopping when the archive attempt fails, AFATDS continues to try and export. If you try to send the fire support plan via tactical communications after a failed archive attempt, and you see an error message on the 'export plan' window ("transfer plan still in progress), then AFATDS is in such a "loop". AFATDS blocks plan transmission if it senses that a plan archive or transmission is already underway. To recover from this situation, you must restart AFATDS

29. AFATDS and PASS use Different Rules for Naming Geometry Objects: AFATDS and other fire support systems (e.g., IFSAS) allow the operator to give geometries the same name, so long as the geometries are of a different type. For example, it is possible to have a zone of responsibility called "3BDE" and a CFL called "3BDE" in AFATDS. PASS requires all geometries, regardless of type, to have a unique name. Operators should follow a naming convention that provides unique names for all geometries.

30. CADRG MAP Loading Procedure: Loading CADRG Maps

    a. **Insert the CADRG map CD allowing enough spinup time.**
    b. **Select MAP / Load CD from the JMTK window menu.**
    c. **You'll be asked to enter a name for map files.**
    d. **You'll be notified when it's complete.**
    e. **Select MAP / MAP TYPES / RPF MAP BY TILES from the JMTK window menu.**
    f. **The background of the map window will turn black.**
    g. **Select MAP / MAP Features from the JMTK window menu.**
    h. **A window will appear with types of features to load.**
    i. **Select the … next to RPF Maps.**
       A list of all RPF maps that were on the CD will appear. This window is capable of sorting by double clicking on columns, individual and group selections, and deselecting. Recommend that the list be sorted by NW Locations.
    j. **Highlight or select all the areas of interest then select "ON".**
       This will cause all the areas selected to show up with a RED X on the map. This is a good check to ensure all the areas of interest have been selected.
    k. **Select APPLY before exiting the map selection windows.**

31. Max Ord: The Max Ord presented on the Fire Commands & Technical Solution windows is the "biggest" max ord value computed for the fire mission, and it is given in meters above the firing weapon elevation. For airspace clearance purposes, this value may have to be converted to meters above mean sea level. To make the conversion, simply add the weapon elevation to the displayed max ord value.

32. Cannot Restore Database from CCU or UCU to NCU (TADPOLE): The TADPOLE does not currently support an external data device that allows it to restore a database recorded on a UCU or CCU workstation. The TADPOLE supports CDROM and Flash Key. It does not support floppy disks or flash cards. Once a database is recorded from the TADPOLE to CDROM, the CDROM can be restored on a UCU, CCU, or another TADPOLE.

33. Don't Recalculate ATACMS BAT Missions: Due to the complexity of ATACMS BAT mission processing, selecting the "recalculate" option sometimes yields unpredictable results. If you want to calculate a new solution for an ATACMS BAT mission, we recommend denying the mission, making appropriate guidance, unit, or target edits, and the then initiating a new ATACMS BAT mission on the target.

34. "Retrying" Failed Command Messages to Launcher Causes Sync Problem: At MLRS Batteries communicating direct with launchers, you may encounter the following problem if you do not have a platoon FDC to provide automatic retry of failed messages. If a command message is not acknowledged by the launcher, and there is no alternate route to the launcher, AFATDS displays a failed transmission alert. If you subsequently re-establish communications with the launcher and resend the failed transmission, this will throw off serialization, so that the launcher will send a "NAK" response to the "retried" message. Rather than resend the failed message, go ahead and send a new Command message. Whatever command message you composed last should still reside in the launcher's unit data, so it should only be necessary to edit the unit, open the commands window, and send.

35. Insure that Subordinate FOs are Entered in AFATDS Comm Table and Current Unit Files: At an AFATDS FSE with subordinate FIST teams that have subordinate FO parties, the FOs must have communications routes and must be established as units in the current situation in order for mission processing and subsequent mission message routing to work properly. If only the FIST teams are established at AFATDS, then all mission messages from AFATDS will stop at the FIST device, and will have to be manually routed by the FIST to the FO.

36. In a 3+ Workstation OPFAC, Not All Workstations Get a Complete Database: In a multi-workstation OPFAC, AFATDS is designed to make a "copy" of the OPFAC database that resides on the master workstation, and distribute it to other workstations. As a result, the OPFAC can continue to function even if one of the workstations is lost. In a two workstation OPFAC, a complete copy of the database is recorded on the slave workstation. If there are multiple slave workstations, however, AFATDS does not copy the entire database to each slave. If you are adding workstations to an OPFAC in order to "transfer" the database onto the new workstation, you can do this for only one workstation at a time, i.e., add a slave workstation, then remove the slave workstation, add another slave workstation, etc.

37. Dragging and Dropping Large Numbers of Units Produces Anomalous Behavior: If you "lasso" a large number of unit icons (100 or more) and then "drag and drop" the icons to a new location, errors in AFATDS processing may result (e.g. unit locations will change on the map, but may not change at an attached EMT client, and may not change in the basic unit data window for the unit). The problem is most often seen when an EMT client is connected to AFATDS. This problem can be easily avoided if you limit "drag and drop" moves to a small number of icons (10 or less) at a time.

38. For GDU nets set the SINCGARS data rate to TF: GDU nets using FSK modulation with the 1200/2400 tone pair will not operate reliably over SINCGARS when cipher text and /or frequency hopping modes are configured unless the SINCGARS TF data rate setting is selected. Be sure to set the SINCGARS data rate to TF and adjust the Preamble time to 500mSec for CT/FH GDU nets.

39. Inserting a CD Causes an 'Action Open error' dialog box to display: When inserting a CD, you may see a dialog box displayed stating 'Action Open error'. This message is erroneous. It is being caused by a minor error in the operating system software. If you see this message, OK it and proceed with the backup/restore.

40. CD Holds Only One AFATDS Database: AFATDS allows only one database to be archived to a CD. If you try to backup a database to a CD that already has one, AFATDS will not recognize the CD as present, and will not archive. If you want to record a new database on a CDRW that already has a database, you must first "clear" it, i.e., insert the CDRW and select the "Clear" function on the Disk Utilities window (System => Disk Utilities). Once the CDRW has been cleared, it should be possible to archive a new database. NOTE: only the Tadpole computer provides a write capable CD drive.

41. Modifications to IOS Interface Filters during active connection do not update current filter: After the AFATDS operator has received the initial tracks as set in the filter criteria window (IOS interface window), if he then wants to change the filter, he must first disable the Interface, select the new desired filters, and re-enable the Interface. If the IOS operator deletes all the tracks and wants AFATDS to re-send all the tracks, the AFATDS operator must first delete the Track ID's by using the database utility tool. Then the AFATDS operator must disable the IOS interface and change the current filter. This can be achieved by turning off one of the existing filters, enabling the Interface, disabling the Interface, changing the filter back to the desired filter and re-enabling the Interface. The window will not request a new track table each time it is re-enabled unless the filtering criteria has changed.

42. Safety Fire Areas with Paladin: The addition of the Safety Fire Area (SFA) geometry may create some problems for AFATDS FA CPs that control Paladin cannons. These problems can be overcome with proper management of SFA geometries. The following procedure is recommended:

    a. **The AFATDS FA CP that controls the Paladins should be the establishing unit for the Safety Fire Area. Even if all batteries use the same SFA, they should "build" their own copy at their local AFATDS OPFAC, so that they are the establishing unit.**

    b. **Paladin FA CPs should add distribution criteria as follows to insure automatic dissemination of SFA deletes: for data category Geometries/This Unit/FSCMs, enter list Subordinates, criteria Any Change. This will cause a "delete" message to be automatically sent to subordinate Paladins when the SFA is deleted. NOTE: Only the "delete" message is automatically sent to the Paladins. Locally created SFA's are NOT automatically sent to subordinate Paladins. The AFATDS operator must deliberately address and send the SFA to his Paladins. If the SFA is edited, the updated SFA must be manually sent to subordinate Paladins.**

    c. **Paladin FA CPs should maintain only ONE SFA at a time. AFATDS does not restrict the number of SFAs that can be created, but the Paladin can store only one SFA at a time. If another SFA is sent to Paladin, the new one will overlay the previous one. AFATDS operators can maintain multiple SFAs, but they must be very careful when it is time to send the SFA geometry to Paladin. They must insure that only the "correct" one is sent.**

    d. **If it is necessary to delete an SFA from one or more Paladins without establishing a new one, the AFATDS operator should send an SFA to the Paladin, and then immediately delete the SFA. The delete message will be automatically disseminated to all Paladins via data distribution. The Paladins with no SFA on file will UTE the message.**

43. Send To lists all comm units (not just active ones): The "Send To" list will display all units in the current communication configuration, even units with no valid communications routes. If you select a unit with no working communications route and try to send, the transmission attempt will immediately fail.

44. Addition of Print Pro Software. AFATDS 6.4 uses the COE ESP Print Pro software to manage printers. This means changes to the procedure for configuring printers. The AFATDS Printer configuration windows are no longer used. To configure a printer:

    a. **select Start | Programs | ESP Print Pro. This opens the Printer Manager window.**

    b. **On the Printer Manager window select, Action | Add. This opens the Printer Wizard window.**

    c. **Click Next and enter the Printer Name. Entries for Description and Location are optional.**

    d. **Click Next and select the appropriate connection type for your printer. For a printer connected direct to your workstation, select Parallel/USB. For a network printer (connected via LAN) select HP Jet Direct/AppSocket.**

    e. **Click Next. If your printer is connected locally, select the appropriate connection port from the list of selections. If it is a LAN printer, you must enter the printer's IP address.**

    f. **Click Next. PrintPro will take a few moments to build a library of printer make and model selections. When it is complete, select the appropriate make and model from the lists provided. All CHS II printer types should be listed.**

    g. **Click Next. PrintPro should display a Success message. OK the window. The display returns to the Print Manager window. Select Options| Set as Default for the printer you added. If you have more than one to chose from, select the printer you will use most often as the default printer.**

45. MET Distribution. AFATDS supports automatic dissemination of Meteorological (MET) data. AFATDS uses the MET Station Unit ID field in the General Unit Data window, and command/support relationships, to determine how to autodistribute MET data. When AFATDS processes a MET message, it looks at the identity of the originating unit and compares it to the value in the MET Station Unit ID field in the receiving unit's General Unit Data window. If the values match, AFATDS then looks at the MET Station Unit ID's associated with the receiving unit's subordinate units. AFATDS automatically sends the MET to all subordinate units who have the same MET Station Unit ID value. To automatically distribute MET information, the OPFAC receiving the digital MET message must have the unit name of the sending device set in it's 'MET Station Unit ID' field in the General Unit Data window. In addition, the receiving unit's subordinate OPFACs must have the name of the sending device set in their General Unit Data as well.

EXAMPLE: 4th ID DIVARTY gets its MET from the DIVARTY MET section. The MET section is equipped with MMS and sends MET data digitally. The MET section's unit name (from the AFATDS master unit list) is "MET 01 DIVARTY 4ID". All units that receive their MET from the DIVARTY MET section should enter "MET 01 DIVARTY 4ID" in the MET Station ID field in their General Unit Data window.

Now suppose the MET section's MMS is unable to communicate. The DIVARTY OPS section (Unit Name "OPS DIVARTY 4ID") takes over the task of generating and sending the digital MET. To maintain automatic distribution of MET data, all units should edit their General Unit Data and enter "OPS DIVARTY 4ID" in the MET Station ID field.

NOTE: For AFATDS OPFACs that command MLRS launchers, AFATDS is designed to distribute MET CM data to launchers in the same manner as the MLRS FDS. When the AFATDS operator makes a MET current, deletes a MET, or processes a fire mission, AFATDS will examine the MET messages on file, compare them to the last MET message sent to the launcher(s), determine if a different MET should be sent, and when necessary automatically send the MET to the MLRS launcher(s). This behavior occurs regardless of what appears in the MLRS launcher General Unit Data. MET Station ID should remain blank for MLRS launcher units.

46. Cannon Volume of Fire When Mass All Option Selected: When the Mass All Systems attack option is selected, AFATDS changes the way that it displays volume of fire for cannon fire units. AFATDS normally displays the number of volleys that each cannon unit will fire for effect. When Mass All is selected, AFATDS changes the display to reflect the number of rounds (i.e., number of tubes per unit times number of volleys) that will be fired for effect. This is done to make the display for cannon units consistent with rocket and naval gun units that may be part of the massed solution. Volume of fire for rocket and naval gun units is always given in number of rounds to fire. Therefore, volume of fire for cannon units is also displayed as the number of rounds to fire, rather than the number of volleys.

47. Enhanced MVV Management: Users at Paladin FA CPs whose Paladins have been loaded with the new VMF R5 software should ALWAYS select the Enhanced MVV Management option in the detailed unit data for their subordinate Paladin cannon units. The new Paladin AFCS software uses a new scheme for managing MVV data, which splits MVV into its constituent "MVV due to propellant lot" and MVV due to tube wear" components. AFATDS will not be able to successfully exchange MVV data with the new AFCS unless enhanced MVV management is selected. Users equipped with the new M777A2 howitzers should also use enhanced MVV management. All other users should continue to use Basic MVV management.

48. Connect Non-AFATDS Communications Networks to Master Workstation: Users who set up in a multi-workstation configuration should insure that all communications networks that have "non-AFATDS" devices are physically connected to the master workstation only. The AFATDS process that translates messages for external systems resides only on the master workstation. Trying to communicate with an external system on a network connected to a slave workstation will often trigger OPFAC reconfigurations and sometimes lead to a complete workstation failure. This problem can be avoided by connecting these networks to the master workstation.

49. Set ESP PrintPro Browsing Option to NO: When configuring ESP PrintPro, be sure to visit the "Browsing" tab and set the Browsing option to "No". Failure to do this will cause PrintPro to periodically send a query message for active printers on all active IP networks. This includes 188-220A and 188-220C networks. AFATDS 6.4.0 software defaults these values to NO.

50. Do Not Change Any Settings on ESP PrintPro Network Tab: Do Not Change Any Settings on ESP PrintPro Network Tab. Doing this may cause the OPFAC to reconfigure. There is no need to make any entries on this tab for routine printer setup.

51. Do Not Use “Send to Selected” Option When Processing Missions for Paladins: If you control Paladin howitzers and they are in a "stationary" or “degraded” status (i.e., AFATDS is computing and sending technical firing data), do not use the “Send to Selected” option on the Intervention – Tactical Solution window. AFATDS only computes a ballistic solution for the weapons in the recommended attack option. If you send commands to one of the “non-recommended” options, you will most likely see a "failed translation" alert. AFATDS is trying to send default values for deflection and quadrant (DF 0 mils, QE –400 mils) in the fire order message. The minus 400 QE is outside of the acceptable value range for QE, making the message invalid. Also bear in mind that when you use the "send to selected" option for Ready Paladins, AFATDS has not performed 3D geometry checks and down range mask checks. Checking the projectile trajectory against airspace measures and downrange masks is performed only for the recommended attack option. If you want to fire Paladins that are not in the recommended attack option, you should recalculate the mission, specifying the weapons you want to fire on the More Mission Data tab.

52. Insure That USB Port is Empty When Loading Software on TADPOLE: When loading software on the new Sparcbook 5000 (TADPOLE) laptop computer, be sure that there is nothing connected to the computer’s USB port. When a device is connected, such as a flashkey or a USB keyboard, this can cause errors in the load process that prevent the AFATDS software from functioning correctly. NOTE: It is okay to have a USB mouse connected during software load. The mouse does not appear to cause any software load problems.

    If you should inadvertently load software with a flashkey or keyboard attached, remove the device, load software again, and assign a new hostname when the load is complete. This hostname should be completely different from the one used in the previous load (i.e., all new characters).

53. Problems with SINCGARS ASIP Radios in Frequency Hopping (FH) Mode: The following problem has been observed with certain configurations of the SINCGARS ASIP radio. When the ASIP is set for FH mode and 4800N or 9600N baud rate, this may produce a radio failure. To avoid this problem, set the radio for single channel (SC) mode when using 4800N or 9600N baud rates. If you must use FH mode, select a lower baud rate (2400 or less)

54. Units Are Auto-created When Messages Received Over Permanent LAN: AFATDS 6.4 is designed to automatically create a new unit (or rather prompt the operator to create a new unit) when it receives a message from a device that is not in the local OPFAC's current situation, but resides in the OPFAC's Master Unit List. This function works ONLY for messages received over the permanent LAN network, and only if the new unit resides on the same subnet as AFATDS. If the sending unit sends a fire request or unit status message over the permanent LAN network, and resides on the AFATDS JMUL, but does not reside in the comm table, AFATDS will automatically add the unit to the comm table, and prompt the operator to create the unit in current. If the operator chooses NOT to create the unit in current, AFATDS sends a freetext to the sending unit, saying that the message was rejected. AFATDS does NOT automatically remove the unit from the comm. Table. If the operator does not want to communicate with this unit, he should remove the unit from the comm table.

55. Paladin automatically ends TOT missions: When firing TOT missions with Paladin, you will receive UTE responses when the mission is ended, and EOM is sent to the Paladins. This is because the Paladin automatically ends missions with a TOT method of fire. Since the mission is already ended, Paladin UTEs the EOM from AFATDS.

56. Notes on 188-220C Communications Nets: AFATDS 6.4 adds the capability to communicate via the 188-220C communications protocol. This protocol adds many new features that improve communications throughput and reliability. Operators are encouraged to take advantage of these features by making 188-220C their preferred communications protocol. Network settings on 188-220C nets must be managed closely, however, to insure optimum performance. Here are some tips to keep in mind:

    a. Insure that the number of stations field reflects the actual number of stations on the net. The default value for number of stations is 10. But if only 3 stations will actually use the net, communications will go much more quickly if the value is set to 3. Insure that all stations have the same number of stations value set.

    b. Make sure each station has a unique station ranking value. This will reduce collisions and eliminate "duplicate station ranking" alerts.

    c. If all stations on the net can communicate directly, then leave the "Enable Internet Relay" box unchecked. When enabled, this feature consumes quite a bit of bandwidth as the devices on the network must exchange a lot of topology information to determine who can talk with whom. Only use this feature when intranet relay is required to reach stations on the network.

    d. Operators should take advantage of 188-220C communications features. Among the advantages of 220C over 220A is the use of "N-Layer Bypass". This feature reduces bandwidth by discarding unnecessary UDP/IP header information. AFATDS automatically senses whether or not other devices support NLB, and automatically sends NLB messages to devices that can support it. 220C has other features that provide for more efficient communications over noisy nets. 220C is also better able than 220A to deal with nets that have a "mix" of SIP, ASIP, and ICOM radio models.

57. PASS Server Must be Connected to Permanent LAN: If your OPFAC interoperates with a PASS server (AIS device), you must communicate with it via the Permanent LAN network. If you are in a multi-workstation configuration, the physical connection must be made from the Master workstation.

58. Always Start AFATDS First on Dual Use AFATDS/EMT Workstation: AFATDS 6.4 allows the user to run both the AFATDS and EMT applications simultaneously from the same workstation. This allows the user to have access to EMT functions without any need for additional hardware. When configuring a workstation for dual use, however, always be sure to start the AFATDS application first, then start the EMT application. AFATDS will NOT start if EMT is started first. If you should inadvertently start EMT first, exit EMT and log off. Log on again, start AFATDS, and then start EMT.

59. NFCS Accepts Maximum of 36 Targets in a Schedule of Fires: If you are supported by a naval ship equipped with the NFCS system, do not attempt to schedule it for more than 36 targets in a schedule of fire. 36 targets is the maximum that NFCS will accept in any one schedule. It will respond with a CANTCO (cannot comply) message if you try to send a schedule with 37 or more targets.

60. Printing of Banner Pages with Print Jobs: The PrintPro software that manages printers in AFATDS 6.4 is designed to automatically print cover sheets with all print jobs. Many users find the cover sheets to be an annoyance and a waste of paper. If you do not want cover sheets with your print jobs, you can deactivate this feature with the following procedure:

(1) Start PrintPro.

(2) Add the Printer (if not done already).

(3) Click the Server icon.

(4) Click the check-box to allow overrides. Click OK.

(5) After the PrintPro server restarts, highlight the printer, select Action==>Set Options. Select the Job tab. See note 1 below if this step fails.

(6) Set the Start Banner and End Banner to "none". If you want, you can also enter any special text in the "PAGE LABEL" field (this will print out your text label on the top & bottom of each page). Hit the "OK" button.

(7) An information window will open stating that "default options saved for printername". OK that window.

(8) Click the server icon again.

(9) On the Configuration window that opens select the "server" tab. Set the classification to "none" and "OK" the window (the server will restart automatically). If you don't do this, a cover sheet will always print.

(10) You are now done and can close the print pro manager.

NOTE 1: If step (5) above does not bring up the options window, do the following:

(a) Click the Server icon. The "Server Name" and "Server Administrator" fields probably contain some value other than hostname of your workstation (e.g., "cloner").

(b) Change the hostname of the workstation to the correct hostname. (I.e., enter the hostname you entered when you loaded software. The hostname is also displayed on the DII COE window banner at the top of the screen.) Click OK and the server will restart.

(c) Remove the existing printer and begin again from step (2) above.

NOTE 2: Do not change classification setting or disable cover sheet printing if you are operating in a classified environment. Doing so may violate security policies.

61. Deleting CGRS NOW Deletes Active Geometries: If you have created a Common Grid Reference System (Killbox grid) on EMT, and it has active Killboxes with corresponding FSCMs at AFATDS, deleting the CGRS now automatically deletes the AFATDS FSCMs.

62. Use Upper Case Letters to Enter Manufacturer's Propellant Lot Number: AFATDS 6.4 software relies on the Manufacturer's Lot Number (the long character string) rather than the single character Lot Designator, to associate MVV data with ammunition data. When comparing lot numbers for a match, AFATDS distinguishes between upper and lower case characters, i.e., "AAABBB123" is NOT the same lot number as "Aaabbb123". You can avoid this problem by always entering the Manufacturer's Lot Number using upper case (capital) letters. Manufacturer's Lot Numbers received from Paladin will always be in upper case letters. Default manufacturer's lot numbers assigned by AFATDS will also always be in upper case letters.

63. Paladin May "UTE" Freetext Messages Built Using Shortcut Icon: If you use the Freetext Shortcut Icon (the one that looks like an envelope) on the AFATDS Toolbar to compose a freetext message for a package 11 Paladin, you may get a UTE (unable to execute) response. When freetext messages are built using the shortcut icon, the CMP application adds a "carriage return" character to the end of the message. Some versions of Paladin and Paladin Trainer software do not accept the "carriage return" character. If you encounter this problem, compose your freetext messages by opening CMP and using the appropriate menu selections to compose a Pkg 11 K01.50 or VMF R5 K01.50 message. When built in this manner, CMP does not add the "carriage return" character, and Paladin processes the message without error.

64. SPLL Command to Survey Control Point (SCP): When you open the SPLL Command window and want to direct a launcher to move to a specific point, AFATDS is designed to populate the point location field for you. If the launcher has operational points associated with it, you only have to specify the point type, and the two-character identifier, and AFATDS automatically retrieves the grid coordinate. If you want to direct a launcher to move to a SCP, however, the location field is not automatically populated. SCPs, unlike operational points, are not associated with specific launchers, so AFATDS does not populate the location field. You can still direct the launcher to the SCP, but if you want the command message to include the grid coordinates of the SCP, you must type these in manually. You can send the SCP location separately by editing the appropriate SCP and selecting Send. Remember that the SCP name must begin with a two-character point identifier (e.g. "A2").

65. Alert Displayed with Checkfire at Monitoring MLRS Platoon: When AFATDs receives a "Checkfire by target number" message, and the target number does not correspond to an active fire mission at the receiving OPFAC, AFATDS is designed to display an alert that says "Check firing received from <unit> but could not be processed." When this happens, it usually means that the message sender got the target number wrong, or picked the wrong destination unit. This will routinely happen at a "monitoring" MLRS Platoon FDC when the battery sends a checkfire to a launcher, however. The Platoon FDC is not normally part of the mission chain, so the mission in question is not active at the Platoon, even though the Platoon FDC can see the mission status in the FCS Weapon Status window. If you see this message at an MLRS Platoon FDC, it does not necessarily mean that something has gone wrong. It probably means that the Battery FDC has issued a checkfire command to a launcher.

66. MFRs from NFCS After Shooting Schedule of Fires Cause Errors at AFATDS: You may encounter this issue if you interface with the Naval Fire Control System (NFCS). NFCS is designed to receive the Schedule of Fires message from AFATDS. In most cases, the preferred method of shooting a schedule of fires with a supporting NFCS is for AFATDS to execute the fire plan, and generate TOT fire orders for transmission to NFCS. This creates active missions at AFATDS, and causes AFATDS to perform its standard attack analysis and coordination checking for each target. In some cases, it may be desirable to send NFCS a schedule of fires, however, and have NFCS fire the schedule independent of AFATDS. This method may be preferred when the schedule of fires is on-call, and must be fired immediately once the decision to fire is made. A counterpreparation is a good example of this sort of schedule. When NFCS fires a schedule independent of AFATDS, it generates and sends MFRs. When these MFRs are processed by AFATDS, AFATDS generates warning messages, indicating that it has no record of the MFR missions. This is the expected behavior. AFATDS does not expect to receive MFRs from an external device unless it sends a fire order to that device. When this happens, ignore the MFR messages from NFCS.

67. Unable to Use "Reply" in CMP When There are Slashes in the VMF Unit ID: Due to a CMP software error, you may have difficulties using the Reply function in CMP if the unit associated with the message has a VMF Unit ID that has "slashes" (i.e., the ASCII virgule character, "/") in it. CMP uses the virgule symbol as a field delimiter. You can avoid this problem by editing the VMF Unit ID value in the JMUL for units that you are likely to communicate with, and removing any virgules in the VMF Unit ID field.

68. Map Background Slow to Refresh: The JMTK map on AFATDS and EMT can be very slow to refresh when a background map is loaded. This problem can be largely overcome by modifying some settings in JMTK. **The key is to de-select the "Ignore Scales" checkbox on the "RPF Editor" window.**

    (1) Follow the usual procedure to Load the maps from CD ("Load Products - RPF Maps" option from the "Map options" menu item). Follow the prompts. If you have several CDs you will have to do this for each one. If you have already loaded all necessary maps, proceed to step 2 below.

    (2) After maps are loaded, zoom your map display to the appropriate scale to show the area in which you are operating and would like maps displayed.

    (3) On the "Map Options" menu select "Map Features --> Map Features". This opens the "Map Features Application" window. Check the box to the left of "RFP Maps" and then click on the button to the right of "RPF Maps". This opens the "RPF Editor" window

    (4) On the "RPF Editor" window, insure the box next to "Ignore Scales" IS NOT CHECKED! Under the "Edit" menu item, click the "Select Maps in View" item. This will cause the files on the list that are in view for whatever map scale and area is currently selected to be highlighted. Now click the "On" button and then "Apply" button at the bottom of the "RPF Editor" window. You may now "Exit" this window and also the "Map Features Application" window.

    (5) Under the Map options menu item select the "Map Properties" item. On the Map properties window select "WVS Colored Countries" for your base map and "RPF Select Images" for Overlay 1 map.

    NOTE: When AFATDS and EMT 6.4 software is loaded, the Ignore Scales checkbox is now automatically de-selected.

69. FS System Attack Parameters Lost on Database Upgrade: Any FS System Attack Parameter guidance recorded on an earlier AFATDS software version and restored on this version may be lost. This guidance is being deliberately removed to prevent a potential error condition brought on because of changes in the way that AFATDS identifies friendly units. Be sure to inspect the FS System Attack Parameters window after the database restore and make any necessary guidance updates.

70. Using Flashkey Devices with (TADPOLE): Because of limitations in the Solaris operating system, many removable hard drive (flashkey) devices do not work. We have found that flashkey devices that are compatible with USB 1.0 work consistently. Flashkeys compatible with USB 1.1 or 2.0 do not work consistently.

71. SPTCIM Firmware Configurations: Raytheon has recently encountered problems with SPTCIMs on various hardware platforms. Many SPTCIMs currently mounted on fielded equipment are configured with older firmware versions that do not always interoperate correctly with AFATDS 6.4 software. If your system "hangs" on startup or shutdown, it is possible that you have an improperly configured SPTCIM. AFATDS software has been modified to detect this condition and alert you to the problem. A utility has been added to AFATDS 6.4 and FST 6.4 software that allows you to reconfigure SPTCIMs with the appropriate firmware version. You can access the utility as follows: Start => AFATDS Functions => AFATDS Utilities => Flash TACLINK or SP-TCIM. This utility will not run when AFATDS software is running. You must shut down AFATDS, or use the utility before starting AFATDS. A similar utility is provided on the FST. It is accessed as follows: Start => EMT => Utilities => Flash TL3000.

72. Disconnect EMT/FST Before Performing Emergency Purge: If you need to perform an emergency purge of EMT or FST, be sure to disconnect from the server first. The emergency purge is designed to get rid of the offline data store. If the device is still connected to the server, data from the server will still be visible and accessible even after the purge.

73. EOM RAT from Package 11 PFED or FOS Does Not Update Target Location at AFATDS: When the Pkg 11 PFED or FOS sends the EOM RAT command to AFATDS at the conclusion of adjust fire mission, AFATDS does not update the target location. (The PFED and FOS are erroneously sending the EOM RAK (i.e. record as known point) command, even though the GUI selection on the FOS/PFED reads EOM RAT.) The target location is correctly updated in the local FOS/PFED files, but the target location at AFATDS reflects the initial target location for the mission. When the FOS/PFED operator chooses to fire at a stored target, the FOS/PFED sends the updated target location. AFATDS updates the target location and prosecutes the mission against the updated grid.

    This problem does NOT apply to the VMF R5 FOS and PFED. EOM RAT commands are sent and processed correctly.

74. Line of Departure/Line of Contact Geometry Entered Right to Left: The convention for entering linear geometries in AFATDS has always been “left to right, facing the enemy”. For example, if the friendly force is oriented due west, points for linear geometries would be entered from the bottom (south) to the top (north) of the map display. This convention allows AFATDS to deduce which is the friendly side and which is the enemy side of any line, and perform its fire support coordination and trigger event logic. Of course, every rule must have an exception. The Line of Departure/Line of Contact (LD/LC) geometry, unlike all other linear geometries, should be entered from right to left. Failure to do so will cause the “friendly/enemy” colors to be reversed. Should you enter the coordinates backwards, use the Reverse Locations button on the Coordinates window to correct the problem.

75. Don't Use Line of Departure/Line of Contact to Define a Trigger Rule: AFATDS provides the capability to establish trigger events based on linear geometry (e.g. trip the trigger when any friendly unit is beyond Phase Line POOBAH). Because the LD/LC geometry is entered right to left, AFATDS logic for determining "short of" and "beyond" yields the opposite answer for this geometry. If you establish the rule "backwards", you can still use the LD/LC geometry. It might be better to avoid using it for trigger events, however, to avoid confusion.

76. Do Not Remove Parallel Printer Cable from CCU2: You may encounter this problem if you are using a printer connected via the parallel port with a CCU2 workstation. Disconnecting the parallel cable while the printer is powered on causes the CCU2 to "lose" its connection to the printer port. Reinserting the cable does not restore the connection. The only way to restore the connection at this point is to shut down and restart the workstation.

77. Checkfire All to Launcher Results in Medium Level Alert: If your OPFAC controls VMF R5 MLRS or HIMARS launchers, you will encounter the following when you disseminate a Checkfire All command. The launcher receives this and responds with a WILCO message (actually an instance of the VMF R5 K02.46 message). AFATDS normally expects to receive a target number or mission ID with the WILCO message. Since none is present, AFATDS can't make sense of the message and alerts the operator. Simply delete the alert message. All it indicates in this case is that the launcher received your Checkfire All command. You will get the same set of alerts when you send Cancel Checkfire All.

78. Editing a Target Linked to an Enemy Unit Breaks the Link: AFATDS provides the capability to build targets from enemy units. As updates are received on the enemy unit, the corresponding target data is automatically updated. However, if you edit any element of target data, AFATDS is designed to break the link automatically. We recommend that you do not edit any target data until you are ready to engage the target.

79. Three Strikes and You're Locked Out with COE Login Screen: Experienced users have probably encountered this behavior. All COE workstations provide an automatic "lockout" feature, similar to the lockout provided on most PCs, that causes a Screensaver to appear on the display screen, and forces the operator to re-enter his password to "unlock" the workstation. (When AFATDS software is first loaded, the screensaver is disabled, but users can re-activate it.) To get the login window to appear, users must select an input key. However, this not only makes the login screen appear; the Solaris workstation also "reads" the key input as the first character in the password field. For example, if the user hits the space bar to get the login prompt to appear, he has just entered "space" as the first character of his password. If users do not realize that this is happening, they can quickly enter their password incorrectly three times, which causes their user account to be "locked out". At this point, the security manager (secman) must be called on to unlock the account. Users can avoid all this by backspacing after the login window appears, and then entering their password.

80. You can now download the current version of the AFATDS Joint Master Unit List (JMUL) from the world wide web!

The JMUL is updated every quarter. The revised JMUL is posted to the TSM Web Site the first week of each quarter (January, April, July and October). Units/agencies can access and download the JMUL to a CD and install it using the AFATDS Segment Installer. This requires an internet connection, an AKO account (log in) and a computer with a CDROM/writer. All EMT laptops are issued with a CDROM/writer.

URL for the TSM Web Site is: https://akocomm.us.army.mil/afatds/JMUL.htm

1. At the TSM FATDS Home Page, select the Documents Library link.

2. Enter the AFATDS JMUL Update Page

3. Follow the JMUL Download and Installation Instructions

81. Upgrading 6.3.2 Databases to AFATDS 6.4: If you are restoring an AFATDS 6.3.2 database on a workstation freshly loaded with AFATDS 6.4 software, the restoration process will take longer that normal (as much as an hour). There are many data format changes between 6.3.2 and 6.4. AFATDS needs additional processing time to execute the format changes.

82. Coordination Failures Encountered After Restoring a 6.3.2 Database on AFATDS 6.4: This problem has been widely reported by units upgrading to AFATDS 6.4 software. After loading 6.4 software, and restoring a 6.3.2 database, units report that AFATDS generates a “manual coordination required” alert when they initiate a fire mission. In some cases, this condition prevents AFATDS from generating ballistic solutions. This problem is caused by unidentifiable units and unit references in the AFATDS database. The error condition occurs when AFATDS tries to perform coordination checks, and encounters a geometry with an establishing unit ID that no longer corresponds to a current unit or to any entry in the JMUL. If your database contains lots of old, outdated geometry data, or if it contains any geometries with “unknown unit” as the establishing/responsible unit, you are likely to encounter this problem.

The following procedures should allow you to avoid this problem:

82. (con't)

a. Scrub Database Before Upgrade: Before loading 6.4 software, review the 6.3.2 database and delete all unnecessary geometry and unit data. Be sure to delete any geometry that has an "unknown" establishing or responsible unit. (If these geometries are still operationally important, print the data so that the geometries can be re-built later, this time with a valid establishing/responsible unit.) Then archive the 6.3.2 database, and restore it after loading 6.4 software.

b. Make Sure "This Unit" is Part of the JMUL Before Activating: If you are restoring a database other than your own, keep in mind that a JMUL is part of any database. It is possible that your unit ID, the one you are accustomed to seeing on the Unit Configuration window, is NOT part of whatever database you restored. Before activating, select a new unit ID. In most cases, you will find your accustomed unit ID in the restored database. If you cannot find your accustomed unit ID, talk to your headquarters and ask what unit ID you should use. It may be that you need to import a new JMUL in order to see the appropriate unit ID. If JMUL import is necessary, follow the procedures at item 15 in this paragraph). Or it may be necessary to enter your unit ID back into the JMUL. If so, follow the procedures at item 15 (i.e. make and save the JMUL entry, archive the database, then exit and restart AFATDS).

82. (con't) If you still encounter the "manual coordination required" problem, try the following:

c. Clean up Geometry Files

1) Copy all the geometries to a fire support plan. I.e. create a new fire support plan with friendly situation based on current.

2) Delete all geometries from the current situation.

3) Find the planned geometry or geometries linked to non-existent units (these are the geometries with "unknown unit" or no entry in the Establishing Unit/Responsible Unit fields) and delete them.

4) Implement all friendly geometries from the FS Plan. This restores them all to the current situation.

5) Restart AFATDS. This causes AFATDS to update its cache memory with unit/geometry associations.

83. ROF Data Cannot Be Archived on TADPOLE: Archive capability for Record of Fire (ROF) data is currently limited to floppy disk. If you are using a TADPOLE computer at the battery FDC, you will be unable to archive ROF data. The data can still be printed, however.

6.0 FIRE DIRECTION TROUBLESHOOTING GUIDE

The following table is designed primarily for echelons that perform cannon technical fire direction. It also contains guidance on multiworkstation operations, communications, and Digital Communications Terminal (DCT) operations.

Troubleshooting Map This section provides a number of tables that group problems by operational function. The **Troubleshooting Map** provides a guide to the correct table. Start troubleshooting here.	
Type of Problem	**Go to Table…**
Accuracy problems	Table TS2. Firing Data Troubleshooting
Communications Troubleshooting	Table TS4. Communications Troubleshooting
DCT message problems	Table TS5. DCT Messaging
Fire missions at intervention not providing desired results	Table TS1. Technical Fire Direction Troubleshooting
Multi-workstation troubleshooting	Table TS3. Multi-Workstation troubleshooting

TS1. Technical Fire Direction Troubleshooting	
SYMPTOM	**POSSIBLE CAUSE/SOLUTION**
No firing data computed: TIME 0.0, DEFLECTION 0, QE –400 on **Intervention Cannon Tech Soln Tab.**	• **Guidances, FS Attack, System Attack Parameters** has your unit ID as the **FA Cannon Route To** unit / remove your unit from this guidance.
Intervention Attack Options tab range is within ammunition capability but red option for range and ammunition displays.	• Duplicate propellant, fuze or shell lot codes stored for your unit/ edit and correct the ammunition inventory.
Intervention Attack Options tab indicates one weapon red for **Restricted Unit** check.	• Same lot letter stored for different propellants in unit's MVV folder/ edit and correct MVV data. • This weapon has mask data stored with a **Range To Mask** of 0/ edit your unit and correct weapon's mask data. • This weapon has mask data stored with the same value entered for the **Left Az** and **Right Az** to the mask/ edit your unit data and correct the weapon's mask data.
Intervention Attack Options tab indicates all weapons red for **Response Time Capability** check.	• **Guidances, Miscellaneous, Target Decay Time** set to 0 for this target type/ correct target decay time and re-initiate fire mission.
Intervention Attack Options tab indicates first listed weapon red for **Appropriate System for Mission Type**.	• Target at extreme limit of charge capability, recompute with a higher charge. • MET data stored with extreme values for wind direction, speed, temperature or pressure or 0 entered for temperature or pressure.
Copperhead mission **Intervention Attack Options** tab indicates first listed weapon red for **Appropriate System for Mission Type**.	• No observer assigned to mission or observer has no **Laser Code** stored in his **Detailed** folder/ correct observer data and recalculate mission. • Observer cloud height or visibility too limited/ verify observer cloud height and visibility. • MET data stored with extreme values for wind direction, speed, temperature or pressure or 0 entered for temperature or pressure.
Copperhead mission **Intervention Attack Options** tab indicates all weapons examined, one weapon red for **Munitions Capable** check.	• **Edit This Unit, Weapon** folder has no weapons selected as **Copperhead Capable**/ edit your unit data and select the weapons to be considered for Copperhead missions.

TS1. Technical Fire Direction Troubleshooting	
SYMPTOM	**POSSIBLE CAUSE/SOLUTION**
Intervention Cannon Tech Soln tab provides data for some but not all guns.	• Missing weapons are assigned a status other than **Ready**/ edit your unit and correct the weapon's status.
Adjusting piece was specified but another piece was designated by AFATDS.	• Adjusting piece is out of action/ edit your unit data and verify piece status. • FFE pieces were specified and the adjusting piece specified was not one of them/ recalculate the mission and ensure the adjusting piece is one of the FFE pieces.
Red option, **Intervention Attack Options** tab indicates red for **Meets Mission Cutoff.**	• Mission value insufficient/ verify **Guidances, Target, High Value Target List** and **TMM** and **Mission Prioritization** are correct and as desired by the supported FSCC.
Gun-target vectors on AFATDS map originate from a location other than the battery map symbol location.	• The battery symbol has been dragged to a new location; gun locations remain unchanged to prevent unsafe firing data computation/ verify battery location.
Status window shows GDU's as "Unknown Unit".	• GDU units have been deleted from the master unit list by the operator. This will correct automatically if AFATDS is restarted.
Deflection for all guns appears incorrect by the same difference on each gun.	• Az of Lay is incorrect. Ensure AOL for *each weapon and Detailed information* matches. If you relay on a new azimuth without displacing you must change the AOL for both the displayed range fan (detailed data) and each weapon (weapon data).
TSS filter check failure, Recommendation is to Deny.	• Target TLE and/or age of report exceed TSS Guidance. • To turn this check off: Click **Guidances, Target, and TSS**. Turn off TSS check by clicking the **Check Fire Missions Against TSS**.
Initiate Fire Mission window will not allow a selection to be made from a list such as to add an FFE unit. List displays, but when a selection is made, selection is not added to IFM window.	• Exit and re-start AFATDS.

TS2. Firing Data Troubleshooting	
Problem	**Possible Solution**
Single piece out of sheaf.	Determine which piece by firing a battery or platoon right or left by piece. ❑ Check piece location. ➢ Click **Units, Edit this Unit**. Click **Locate Weapons** and re-enter piece lay data. ❑ Check piece muzzle velocity data. ➢ Click **Units, Edit this Unit**. Click **MVV Data.** ❑ Check piece propellant temperature. ➢ Click **Units, Edit this Unit**. Click **Weapons.**
Pieces group in sheaf, sheaf off target.	❑ Are all non-standard conditions accounted for? ➢ Yes, continue to troubleshoot. ➢ No, achieve more accurate database with meteorological and MVV data or register. ❑ Did accuracy decline after reception of a MET;CM? ➢ If a registration is in use, was concurrent met procedure carried out properly? ❑ Check piece locations. ➢ Click **Units, Edit this Unit**. Click **Locate Weapons** and ensure OS locations are correct. ➢ Re-enter lay data and re-compute piece locations. ❑ Check meteorological message data. ➢ Click **MET**, **View METCM**. Ensure met message is in use. ➢ Ensure the MDP altitude is reasonable. ❑ Check registration data. ➢ Are the range and/or deflection correction larger (range correction over 5% of chart range or deflection correction greater than 10 mils)? ➢ Was the registration validated by firing a check round at a surveyed target with another gun? ❑ Check projectile weight. ❑ Check map datum. ➢ Is the correct datum assigned to both the observer? Click **Units, Edit** and select the observer. ➢ Is the correct datum assigned to both the battery/platoon? Click **Units, Edit this Unit**.

TS3. Multi-workstation Troubleshooting	
SYMPTOM	**POSSIBLE CAUSE/SOLUTION**
Slave workstation shuts down on start-up.	• Master and slave workstations have same hostname. • Master and slave have same IP address. • Rebooting the workstation can change the IP address, however the only way to change a hostname is to reload the workstation software. • Attempt to ping each workstation from the opposite workstation to ensure the LAN cabling and connectivity, and IP addresses. • It is also possible that the LAN is connected to a network that includes a computer using one of the IP addresses of one or both of the AFATDS workstations. Disconnecting the workstation and repeating the ping from the other workstation will check the entire network for a duplicate use IP address.
Slave station starts as stand-alone workstation.	• Multi-Workstation OPFAC name different or missing on one or both workstations; exit and restart AFATDS.

TS4. Communications Troubleshooting	
Problem	**Possible Causes/Solutions**
Comm alert: Subnet reaching saturation level. Subnet *net name* at *number* % of queuing capacity.	Number of transmitted messages on a package 11 or JVMF net exceeds the network's ability to transmit. ➢ This alert is usually followed by a communications alert indicating: Subnet below saturation level. Subnet *net name* at *number* % of queuing capacity. ➢ If problem persists, contact net control. Recommend changing net local transmission load to heavy.
Comm alert: Multi-hop message dropped enroute. A msg bound for the destination could be forwarded by the intermediate station: Intermediate Unit ID: *(unit ID)* Destination Unit ID: *(unit ID)*	❑ A message was transmitted via an indirect route. One of the relaying stations failed to receive an ack on the message. ➢ Contact the Intermediate Unit ID to troubleshoot communications.

TS4. Communications Troubleshooting	
Problem	**Possible Causes/Solutions**
Comm alert: Received clear data over secure UDP network. Source address: *(ip address hostname)*	❑ The station using the IP address in the alert has security set to **Clear** on their network window and your corresponding network is set to **Secure**. ➢ On the Click the **Current Communications Configuration** icon and verify the security level on your IP network is correct. ➢ Contact the transmitting station and have that station verify the network security setting. *Note data communications transmitted from a secure to a clear network computer are ignored by the AFATDS set to the lower security level. Another network or voice communications is required.*
Comm Alert: Communications modem device failure on workstation. Experienced failure (and subsequent reset) of subnet.	❑ SP-TCIM was manually ejected from CCU2 ➢ Replace **SPTCIM** and re-boot the computer. ❑ SP-TCIM suffered hardware failure. ➢ Move network to another SP-TCIM: On the **Current** menu bar, click the **Current Comm Configuration** button and select **Network, Assign Channels**. ➢ Replace failed SP-TCIM.
Comm Alert: Transition to alternate route *(route name or blank)* Destination Unit ID:	❑ Communications failure has resulted in disabling of the current route and transition to an alternate route or to an "off" status if the alternate route is blank in the alert. ❑ On a package 11 or JVMF net or a net using DSVT or DNVT, the destination unit has turned off his communications network or shutdown his AFATDS.
Comm Alert: Re-establish route for unit. Destination Unit ID:	❑ A unit for which the route was disabled, has successfully communicated on that route. AFATDS has turned the route on as a result. No action is required.

TS5. DCT MESSAGING	
DCT MESSAGES SENT TO AFATDS	
DCT SENDS…	**AFATDS GETS…**
OBSERVER LOCATION	AFATDS updates existing data: Location Cloud Height Visibility: 0= no change, 1=2000. 2= 4000, 3=7501 Laser Code
ATI	Stores in Suspect Target list if fails TSS, otherwise stores in Inactive Target List or, if HPT, initiates a fire mission.
FLOT	Creates a FLOT named using observer's TACFIRE alias.
PLAN	Creates a TGT icon indication of a received target list; target is stored in the Current Planned Target List. If Fire plan name is a future plan alias, target stores in that plan's Master target list.
DCT MISSIONS SENT TO AFATDS	
DCT MISSION…	**AFATDS RESPONSE…**
TOT	• Mission queues in MORE DATA for TOT. • MTO to DCT shows UNITS as number of guns. • If mission is less than 10min out, GDU status shows count down timer; if more than 10min, TOT displays in STATUS. • READY is not sent to the observer. If the TOT is more than 10 minutes out, the fire commands must be sent by the AFATDS.
SMK – Observer selects HC SMK	• Mission queues in MORE DATA for Quick Smoke data. • MTO indicates UNITS: (number of guns) • If M825 is fired, 1ST SF: OTHER displays.
REGISTRATION: Must be initiated at AFATDS and DCT receives MTO: - MTO indicates MOE: LOW vice LOW/REG; FO must be notified by freetext.	• READY cannot be sent digitally from the DCT. • Changes in VOF are not applied; observer must send a new SUBS ADJ for each change in volume of fire. • Change to TIME and RECORD AS RP, REC AS TI RP are not recognized and result in invalid message alert. • **This mission must be done using voice procedures!**

TS5. DCT MESSAGING	
DCT MESSAGES SENT TO AFATDS	
DCT SENDS…	**AFATDS GETS…**
HB registration: Must be initiated at AFATDS and DCT receives MTO: - MTO indicates MOE: LOW vice LOW/REG; FO must be notified by freetext. - MTO is normal mission MTO, no orienting data.	• No way to send READY • HB SUB ADJ is not recognized • **This mission must be done using voice procedures!**
QUICK FIRE	• If target is not on Current Oncall Target List, AFATDS automatically returns a freetext "(TGT NUMBER) TARGET COULD NOT BE PROCESSED • If target is on Oncall Target List, WR/FFE mission results.
MINEFIELD MISSION	• Must be recalculated and time FUZE and FASCAM density assigned.
FIRE command for AMC mission	• Works
COORD ILLUM	• Creates two one gun missions • If sent directly to firing battery, MTO for second mission is returned to FO, FO can associate with an empty mission buffer at DCT.
EOM&SURV	• RAT stores target in INACTIVE TARGET LIST.

7.0 GDU SIMULTANEOUS MISSION PROCEDURES

AFATDS 6.4 has been modified to support USMC doctrine for conducting simultaneous missions with GDU equipped howitzers. The following changes have been made to AFATDS behavior:

1. **AFATDS will populate the GDU Mission Number buffer with a unique number if more than one active fire mission has been sent to the GDUs.**
2. **AFATDS no longer requires the current mission to be ended before it will transmit fire commands for the next mission. So long as all participating weapons are in a "Do Not Load" state, AFATDS will automatically send fire commands to all participating weapons.**
3. **AFATDS will selectively send fire commands in some cases. For example, if there is an active adjust mission at the guns and the adjusting gun is still busy loading and firing the adjusting round, and a new adjust mission is sent, and a new adjusting weapon is assigned, AFATDS will send the commands for the new mission to all weapons in a "Do Not Load" state, and "drop" the DNL commands for the weapon that is busy firing the first adjust mission. See EXAMPLE 1 below.**
4. **If some guns are currently "busy" with another mission, and the AFATDS operator approves a new mission that has the "busy" guns firing again, AFATDS will "hold" fire commands in the Send "buffer" and will not send until all GDUs to fire the subsequent mission are in an "unloaded" state. If one or more weapons are currently loading/firing, and the operator approves a new mission at the Intervention Point that would cause one or more of the currently "busy" weapons to fire again, transmission of the commands for the new mission is delayed until all of the weapons to fire are in an "unloaded" state and are ready to process new commands. See EXAMPLE 2 below.**
5. **In previous versions, AFATDS allowed the operator to go to the Fire Commands window for an active mission, select fire commands for a weapon, and select Send. This Send caused the selected fire commands to go to the GDU, regardless of its current state (i.e., the new commands would "wipe out" any previous commands). AFATDS 6.4 software still supports the capability to manually send fire commands, but the new command will NOT overlay the previous command in all cases. If the receiving GDU is in a "fire" state (i.e., it is in a FIRE or AMC state) for a mission, and the operator tries to send commands for a different active mission, AFATDS will inhibit send of the new commands. See EXAMPLE 2 below. A manual resend of commands for the mission currently active at the GDU will always be sent.**

EXAMPLE 1: an adjust fire mission has just been processed (AA2002), and the GDUs are in the following states:

Mission 1 (AA2002)

Gun #	1	2	3	4
GDU Mission No. for current commands	1	1	1	1
Status	DNL	DNL	FIRE WR	DNL

A second adjust fire mission is processed (AA2003). Gun 2 is selected as the adjusting piece.

AFATDS will send fire commands for the new mission (GDU Mission Number is 2) to guns 1, 2, and 4. Gun 3 has not yet reported rounds complete for Mission 1, so fire commands for Gun 3 for Mission 2 are "dropped", i.e., they are not sent, and are not queued for subsequent transmission. After sending commands for the second mission, the GDUs' status would be as follows:

Mission 2

Gun #	1	2	3	4
GDU Mission No. for current commands	2	2	1	2
Status	DNL	FIRE WR	FIRE WR	DNL

EXAMPLE 2: an adjust fire mission has just been processed (AA2004), and the GDUs are in the following states:

Mission 1 (AA2004)

Gun #	1	2	3	4
GDU Mission No. for current commands	1	1	1	1
Status	DNL	DNL	FIRE WR	DNL

A second mission (FFE) is processed (AA2005). All guns are selected to fire.

AFATDS will not send fire commands for the new mission (GDU Mission Number is 2) until Gun 3 reports "rounds complete" for the previous mission. If the operator wants to send commands to the "following" weapons so that they fire AA2005 immediately, the simplest thing to do is "delete" Gun 3 from AA2005. This will cause the commands awaiting transmission to be sent immediately, because the inhibition that was preventing fire command transmission has been removed. The operator can also manually select and send commands for Guns 1, 2, 4. If he manually selects and sends commands for Gun 3, AFATDS simply ignores this input because gun 3 is still “busy” with mission 1.

8.0 AFATDS/EMT WINDOWS FOR COMMON OPERATIONAL PICTURE (COP)

This section describes new AFATDS and EMT windows that will be used for COP/Track Management.

The COP effort adds the capability to AFATDS to support horizontal information exchange with other ABCS 6.4 systems as well as for processing Situational Awareness (SA) data for storage, display and distribution as part of an AFATDS managed COP. This capability allows AFATDS to interface to other ABCS systems using the ABCS 6.4 Publish and Subscribe Service (PASS) located on one of the Windows-based workstations within the ABCS TOC. The SA data received by AFATDS will update the current situation, be stored as "tracks", be displayed on a map overlay, and be distributed to other AFATDS OPFACs.

8.1 Add the Capability to Request PASS/FBCB2 Data

This window will provide the capability to set up AFATDS to detect the presence of the PASS component and, if detected, establish an interface to the PASS component. The default settings will be all topic items checked. The list of Publish and Subscribe topics are listed in the above window. The status line will provide feedback for Connecting, Connected, or Offline states. The Connect/Disconnect button alternates between "Connect" and "Disconnect" each time the button is clicked. After establishing a connection to the PASS, AFATDS will publish an initial data load to the PASS and automatically detect PASS interface failures. When a PASS interface failure occurs, AFATDS will attempt to reconnect. If the reconnect attempt fails, AFATDS will notify the operator. To access this window, open the Track Workspace window (select the "Tk" folder on the Main toolbar or the Track Workspace Selection under Units on the Main toolbar). Then select the Connect to Track Data Source item under Options.

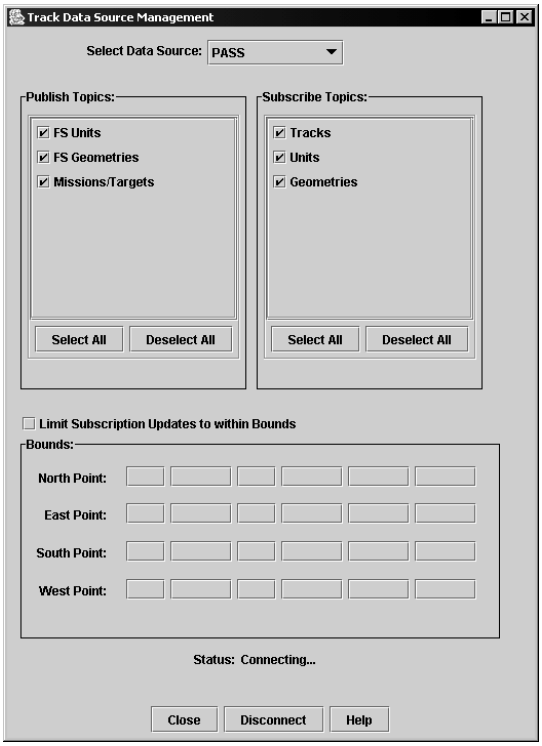


Figure 1. Track Data Source Management Window (PASS)

This window will provide the capability to set up AFATDS to connect to Blue Force Tracking (Multicast) data source for Track data.

Figure 2. Track Data Source Management Window (Multicast)

8.2 Add Track Workspace

The Track Workspace will display all track data in a table format with associated attributes as columns in the table. To open this window, select the "Tk" folder on the Main toolbar or the Track Workspace Selection under Units on the Main toolbar. The operator may tailor the columns in the workspace. The default columns will be Track ID, Report Time, Short Name, Latitude, Longitude, Altitude, Echelon, Service and Affiliation. Additionally, the operator may add the hidden columns, Name (Long), GSD ID, Battle Dimension, Course, State, Type of Ship, Speed, URN, Organization and UIC. The menu items for the Options menu are Refresh, Establish Target, Request Tracks, Send Tracks, Print, Delete and Exit. The menu items for the View menu are View, Find, Find On Map and Select Columns. The only menu item for the Help menu is help. The toolbar icons are in the following order Refresh, Send, Print, Find, Find On Map, View, Delete, Establish Target, Exit and help. The workspace will provide the operator the following capabilities:

a. Send selected tracks to external systems

b. Delete selected tracks from storage

c. Filter the tracks

d. Sort the tracks

e. Print selected tracks

f. Create an Enemy Target from a selected Enemy Track

g. Request Track data from another AFATDS OPFAC

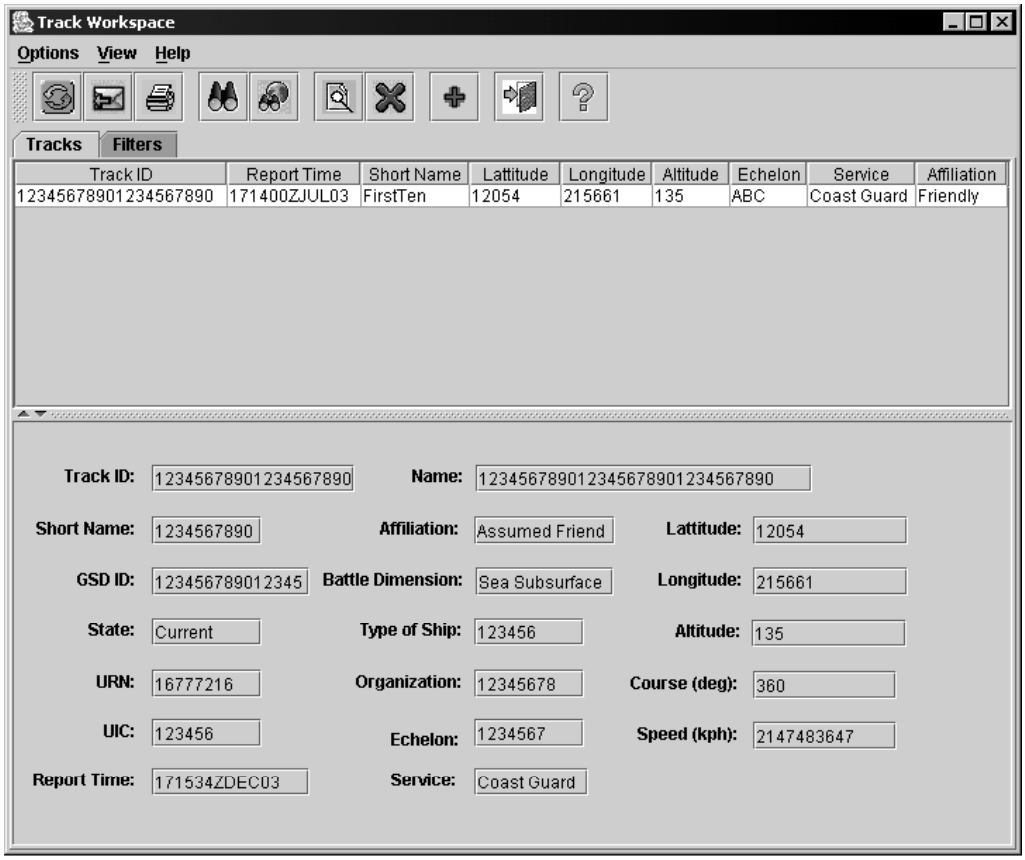


Figure 3. Tracks Workspace AFATDS (Track Tab)

The Track Workspace Filters will allow the operator to establish filter criteria that will apply to the Tracks Tab. Operator established filter criteria will be saved until AFATDS session is restarted. Upon AFATDS startup the default, setting will be all filters unchecked. Unchecked state indicates that no filters are applied for that attribute.

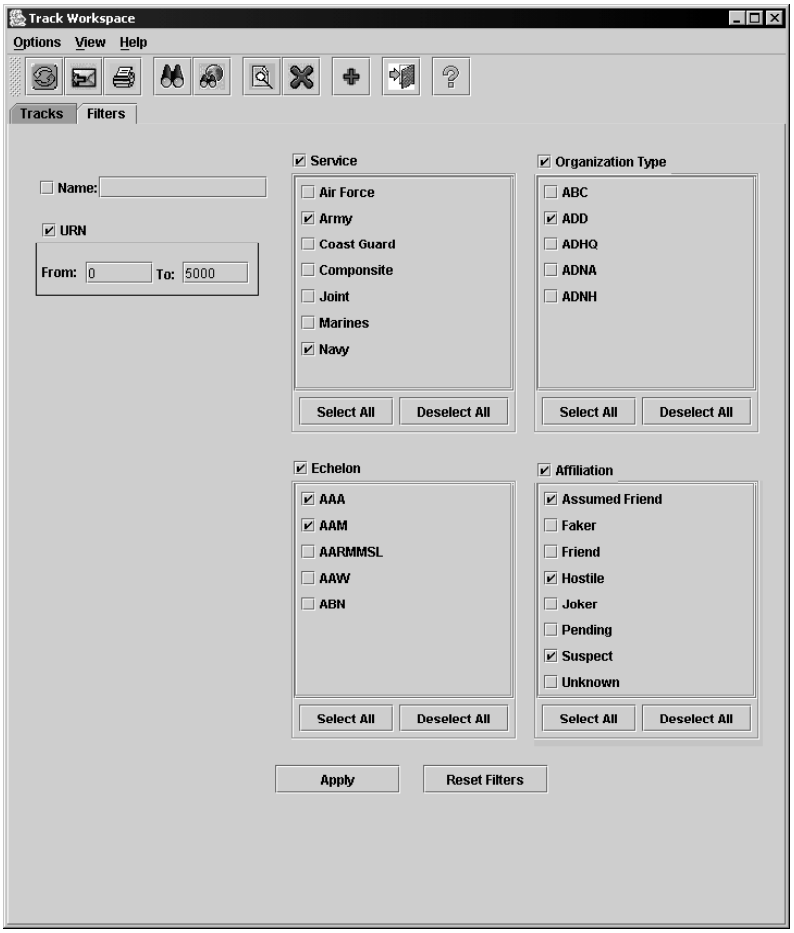


Figure 4. Tracks Workspace AFATDS (Filter Tab)

The EMT Track Workspace has much of the same functionality as the AFATDS Track Workspace. The EMT Track Workspace will display all track data in a table format and includes a panel for filter criteria. The operator may tailor the columns in the workspace. The default columns will be Track ID, Report Time, Short Name, Battle Dimension, Location, Altitude, and Affiliation. Additionally, the operator may add the hidden columns, Name (Long), GSD ID, Course, State, Type of Ship, Speed, URN, Organization, Echelon, Service and UIC. The menu item for the File menu is Close. The toolbar icons are in the following order: Print, Print Preview, Refresh, Close, Select Columns, Load Filter Criteria, Search, Save Filter Criteria, Select All, Deselect All and Establish Target. The EMT Track workspace will provide the operator the following capabilities:

a. **Filter the tracks**
b. **Sort the tracks**
c. **Print selected tracks**
d. **Create an Enemy Target from a selected Enemy Track**
e. **Save Filter Criteria**
f. **Load previously saved Filter Criteria**

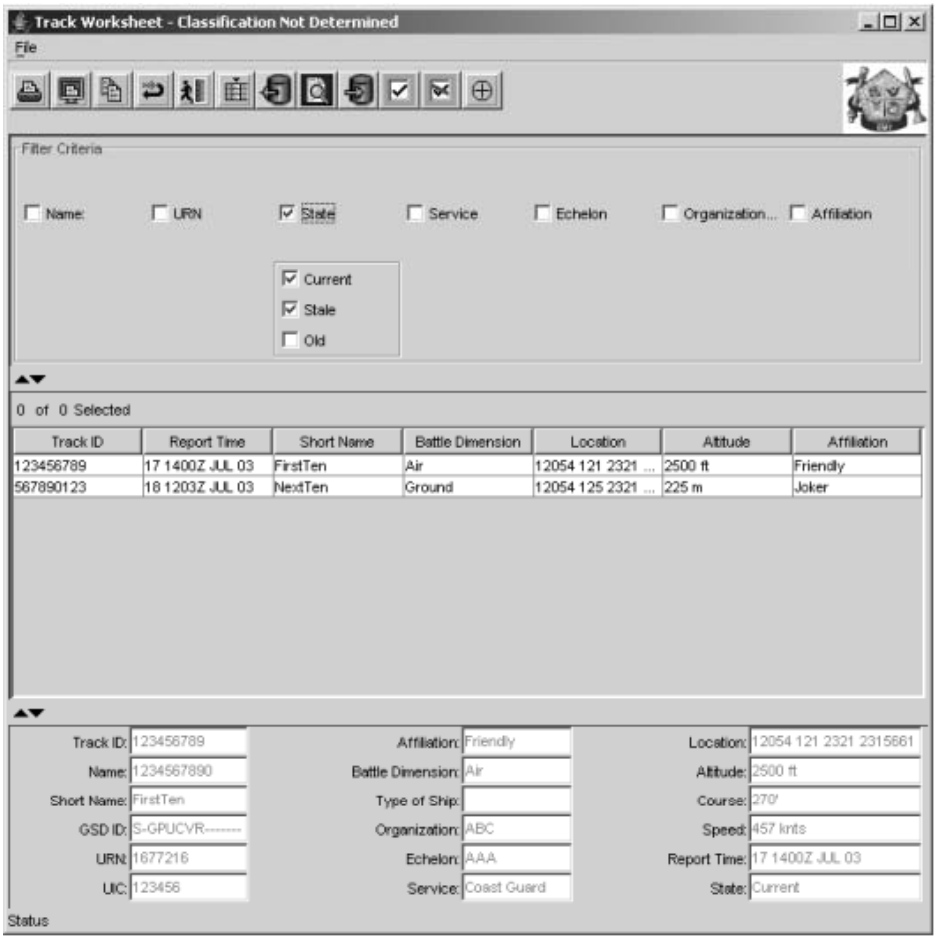


Figure 5. Tracks Workspace EMT

8.3 Add the Capability to Request Track Data from Another AFATDS OPFAC

The Request Tracks from another AFATDS OPFAC capability has no operator settable configurations. To provide this capability a menu item was added to the Track Workspace. To request tracks from the Track Workspace Options menu the navigation path is the Options menu/"Request Tracks". A selection list (shown above) is launched from the from this request tracks menu item. The selection list will be filtered to show AFATDS Unit types that are part of the current communication configuration.

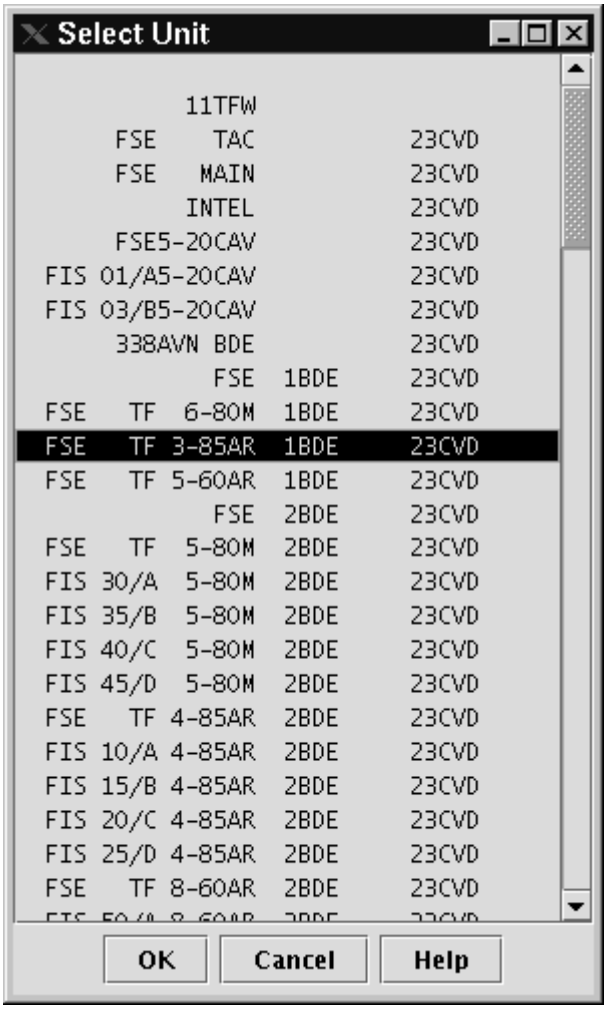


Figure 6. Request Tracks

8.4 Add Tracks Symbol Popup Menu From AFATDS Map

This Map option menu will provide the capability to view, send, create targets, or delete a displayed track directly from the map display Track symbol.

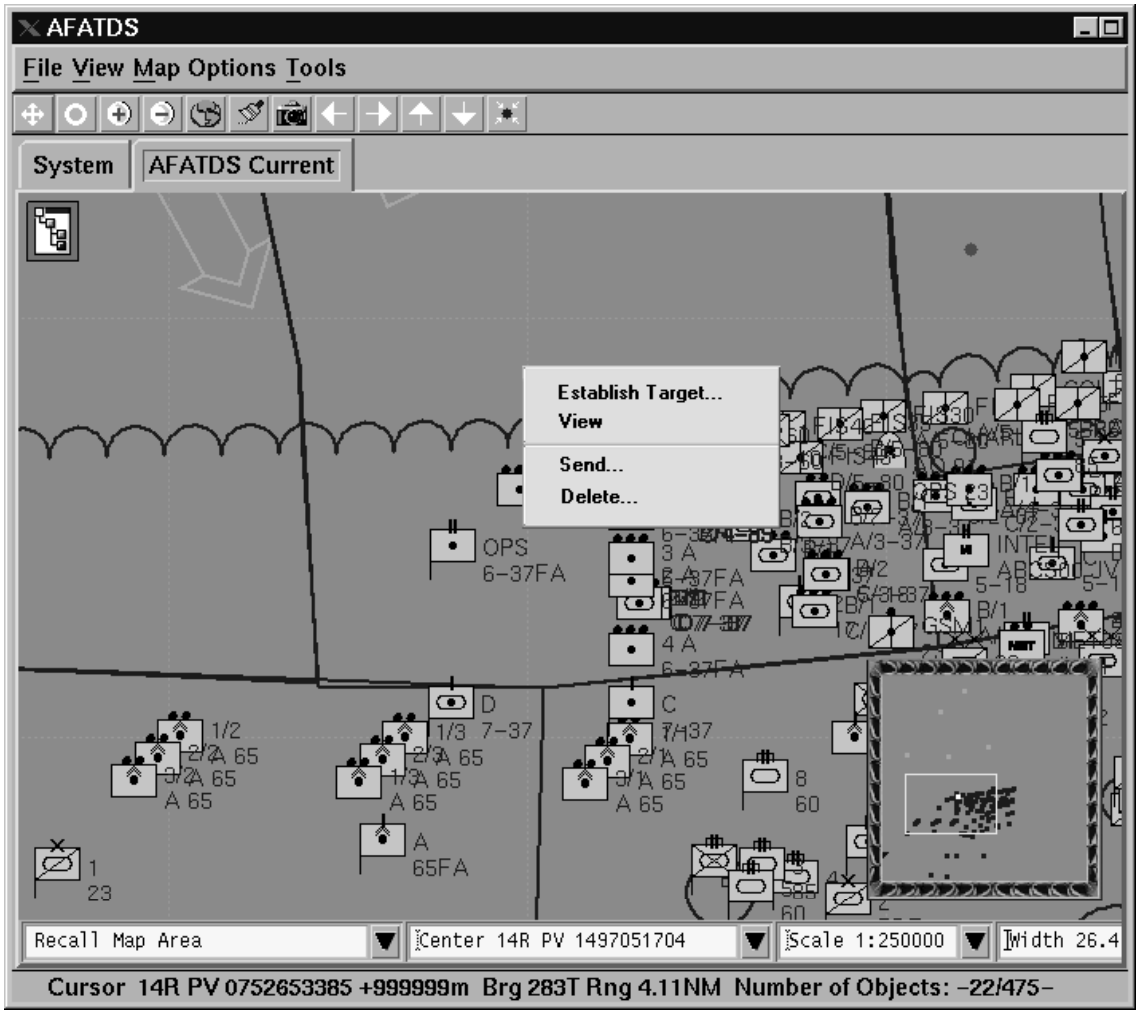


Figure 7. Map Popup

8.5 Add Tracks to Overlay(s) Displayable on AFATDS Map

This AFATDS window will provide the capability to create overlay(s) that include Tracks to a map. Track overlays can be filtered based on Affiliation and/or Battlespace Dimension.

Figure 8. Edit Overlay AFATDS

This EMT window will provide the capability to create overlay(s) that include Tracks to a map. Track overlays can be created based on Affiliation, Battle Space Dimension, State, Service, Echelon and Type of Vessel.

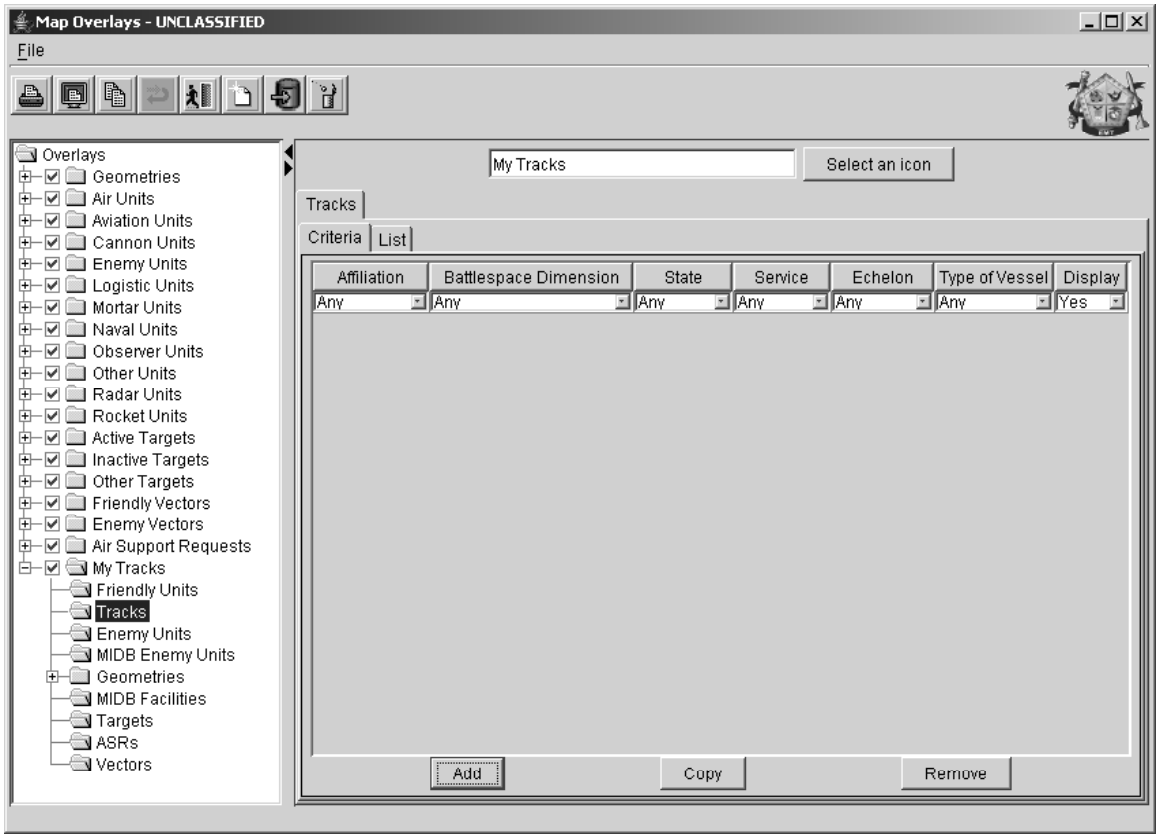


Figure 9. Map Overlay EMT

8.6 Add Track Aging Preferences to Standard Preference Settings

This AFATDS user preference window allows the operator to set the aging parameters for Stale, Old and Purging of Track data based on either affiliation or dimension. NOTE: Only tracks received via the Multicast source are aged.

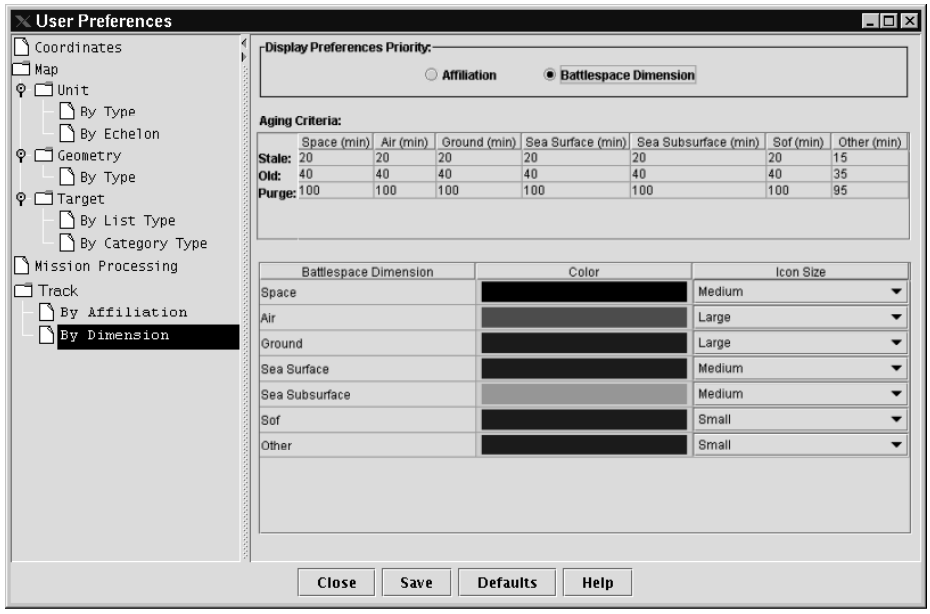


Figure 10. User Preference AFATDS

The existing EMT Preference window will now contain a node for Track preferences. The operator will be able to set the following preferences for tracks received from AFATDS:

a. **Display**
b. **Label**
c. **Course/Speed Indicators**
d. **Color**
e. **Location History**
f. **% Fading based on Track State**

The operator will be able to set these preferences by:

a. **Affiliation**
b. **Service**
c. **Battlefield Dimension**
d. **Individual Tracks**

The operator will also have all of the other capabilities previously documented for the EMT Preferences window.

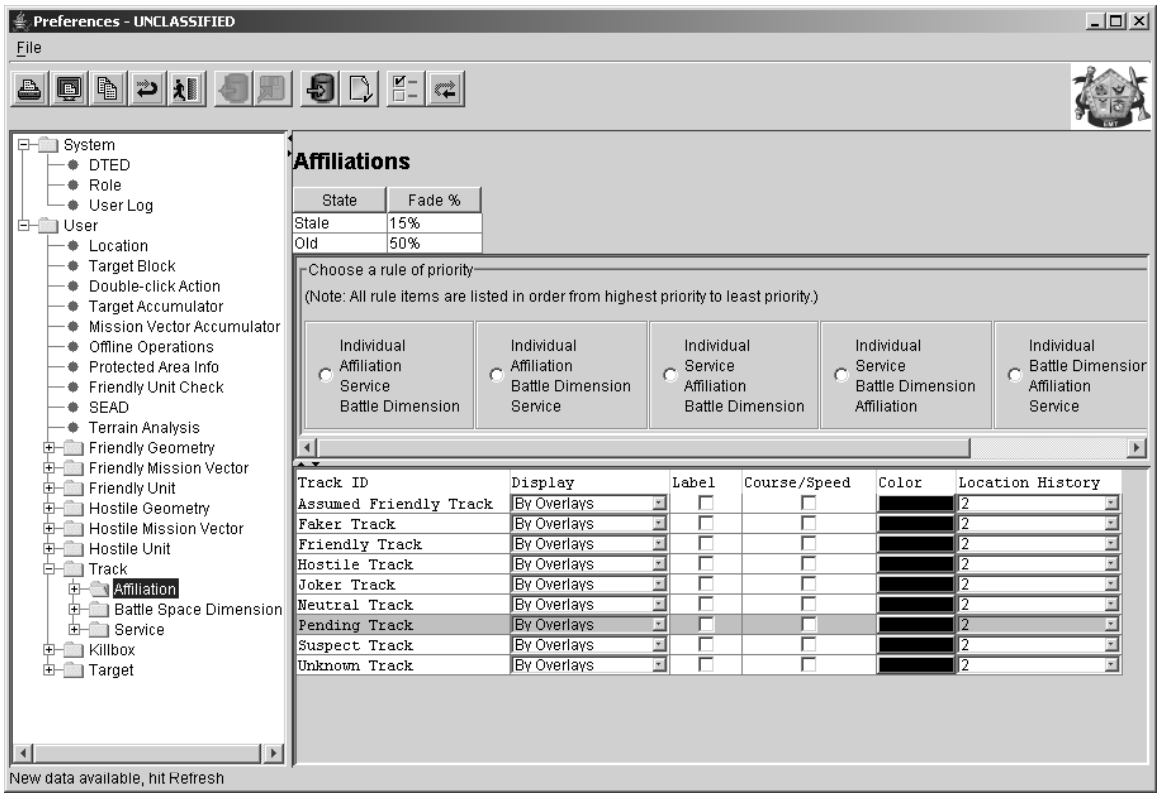


Figure 11. Preferences EMT

8.7 Add Capability to Configure Distribution Criteria for Track Data

This window will provide the operator the capability to define data distribution parameters for Tracks. The Distribution List menu options are Operator defined and can be established using existing functionality. The Criteria menu options available are “Any Change” or “None”. The Units selection will always be Others, since tracks have no command relationship.

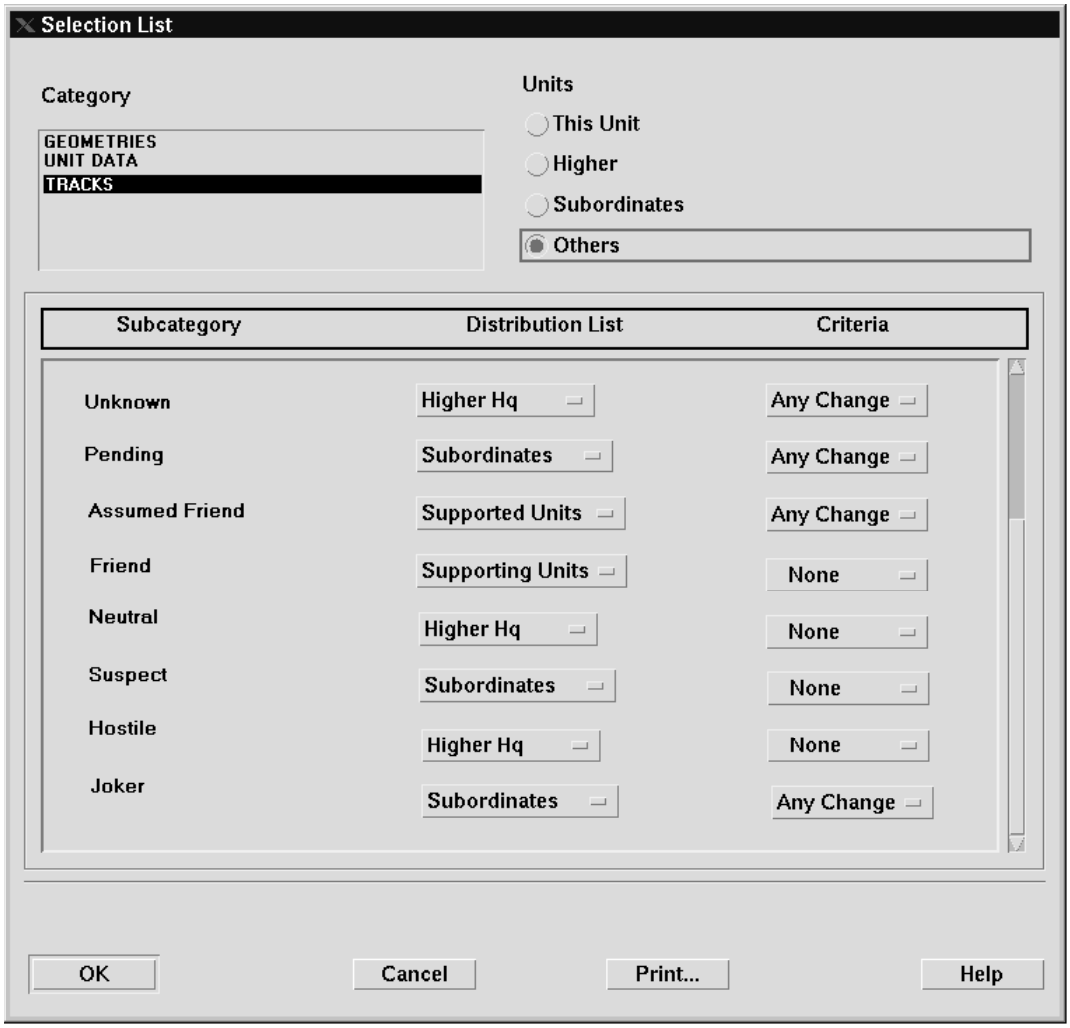


Figure 12. Distribution Criteria

8.8 Add Capability to Include Tracks Data When Transferring Current Information

This window will provide the operator the capability to select whether to include track data when sending current to other AFATDS OPFACS.

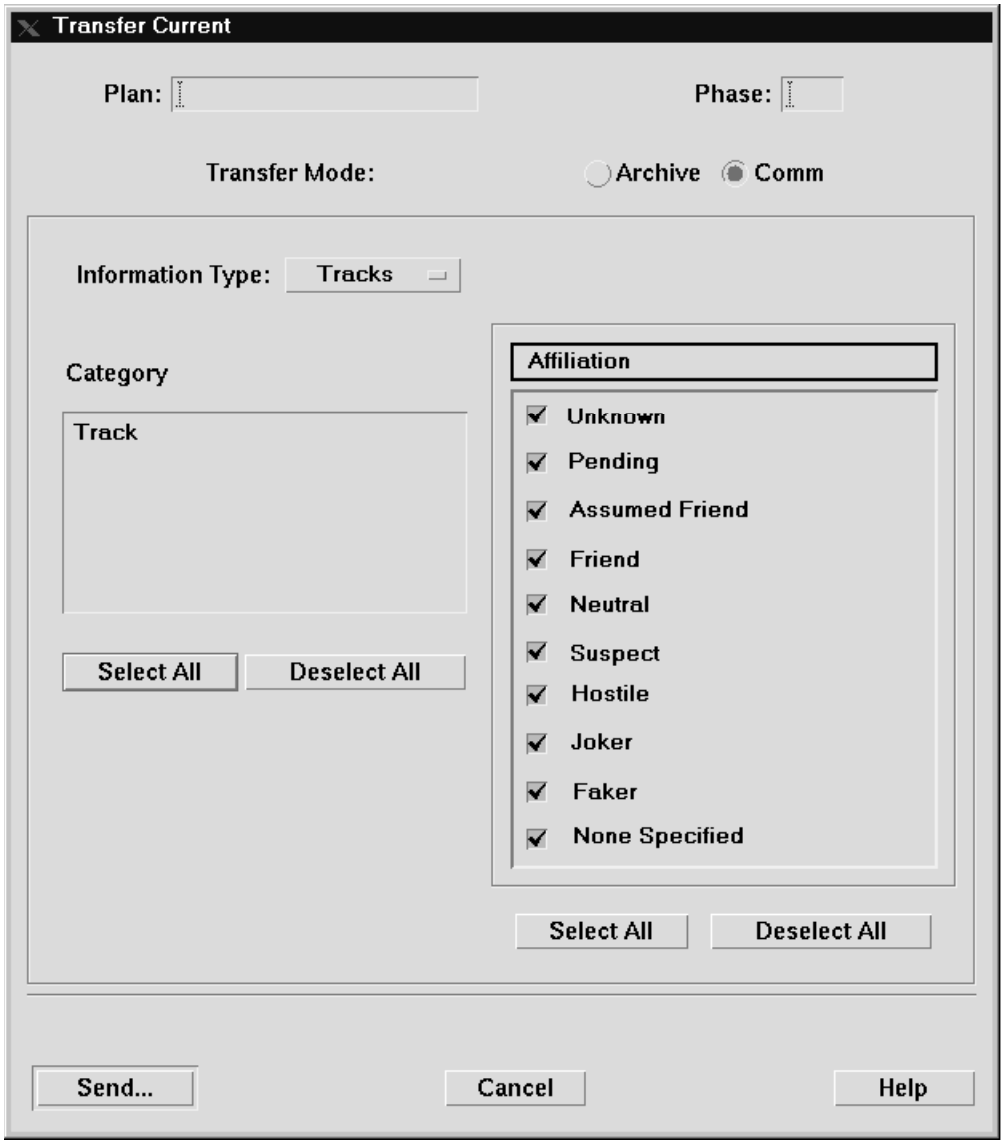


Figure 13. Transfer Current

9.0 INSTRUCTIONS FOR INSTALLING AND CONFIGURING EMT-FST

Check the following conditions and refer to appropriate procedures as required.

1. If FST has been previously installed and you are reinstalling EMT/FST software, the existing software must be removed (refer to paragraph 9.1) before the reinstalling the EMT/FST software.
2. For running FST, ensure that the computer platform has SPTICM or TACLINK 3000 card installed in the PCMCIA slot and the card is configured correctly. **FST will not start without a Card in the PCMCIA slot and configured correctly.** If a SPTICM or TACLINK card needs to be installed and configured refer to paragraph 9.2.
3. If the previous conditions have been met, then proceed the EMT/FST installation procedure provided in paragraph 9.3.

9.1 Preinstall Notes for Future EMT/FST Software Installs

Perform the following steps before re-installing EMT/FST software or installing new EMT/FST software on a platform on which EMT/FST software has already been installed:

1. Any existing FST Database Data Stores and any Off-line data stores must be deleted
2. Any existing EMT software must be un-installed.
3. Microsoft SQL Server Desktop Engine must be un-installed via the Control Panel.
4. Reboot the PC.

If you are installing EMT/FST software on a Windows 2000 “COE Compliant” laptop, you must take the following additional steps:

First, insure that all of the software segments listed below are installed on your laptop.

Segment Name	Prefix	Version
Application Framework	AFW	4.5.0.3
COE Kernel	APM	4.2.0.5
COE Kernel 4.2 Patch	COE.P8	4.2.0.0P8
Integrated Foundation Library	IFL	4.5.0.3
Java Platform 2	JAVA2	4.7.0.0
JMTK Utilities Segment	JMU	4.6.0.1
JMTK-Visualization	JMV	4.5.0.3
MS Security Configuration Templates	W2KCET	4.6.0.1
COE Security Banner	SECBNR	4.7.0.0
TCLTK	TCLTK	4.0.0.0
COE Update System Security Level	UPDTSL	4.6.2.0
W2k Patch Update	W2KPTH	4.7.10.0

1. Login as an operator in the Administrator group.
2. If the registry key 'HKEY_LOCAL_MACHINE/SOFTWARE/Microsoft/Windows NT/Current Version/Winlogon/allocatecdroms' exists, and if its value is not '0', change the value to '0'.
3. Put the EMT 3.1.W.EMT6.4 CDROM into the CDROM drive.
4. Install EMT.
5. Set permissions (using the WIN2K 'Command Prompt' located in Start/Program/Accessories) on the \h\EMTAFA\data directory and contents to 'Modify' for 'Authenticated Users'.
    a. cacls c:\h\AFATDS\data /E /G "Authenticated Users":C
    b. cacls c:\h\AFATDS\data*.* /T /E /G "Authenticated Users":C
6. Set permissions on the \h\EMT\bin\batchfiles directory to 'Write' for Authenticated Users'.
    a. cacls c:\h\EMT\bin\batchfiles /E /G "Authenticated Users":W
7. Set permissions on the \h\EMT directory to 'Write' for Authenticated Users'.
    a. cacls c:\h\EMT /E /G "Authenticated Users":W

9.2 Installing a SPTICM or TACLINK (TL) 3000 Card into a Windows Computer

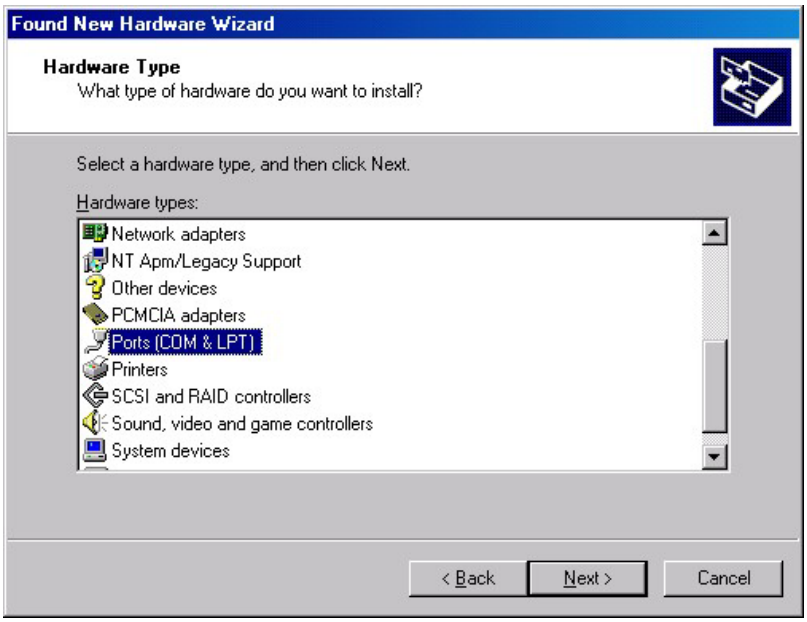
NOTE

FST will not start without a Card in the PCMCIA slot and configured correctly.

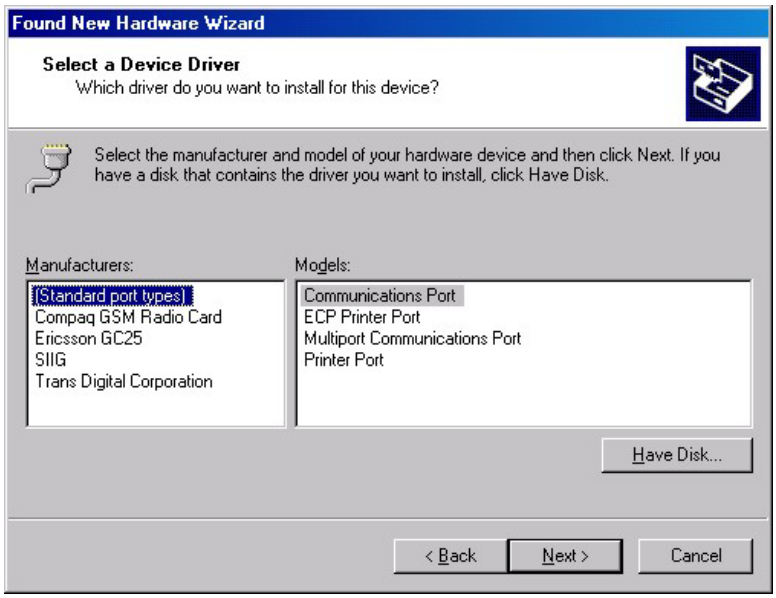
1. Ensure that no applications are currently running.
2. First insert the Card while windows is up and running.
3. Windows will start the Add New Hardware wizard. Select "Next" to Continue.

4. In the next window select “Display a list known drivers” and select “Next”

5. In the Hardware Type window select “Ports (COM & LPT) then select “Next”.



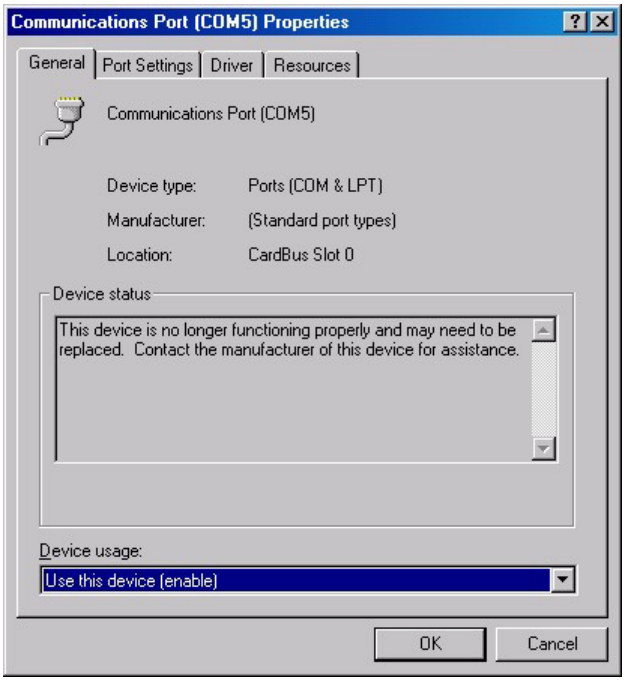
6. In the Device driver window select (Standard port types) and Communications Port, then select “Next”.



7. In the Update Driver Warning window select “Yes”.

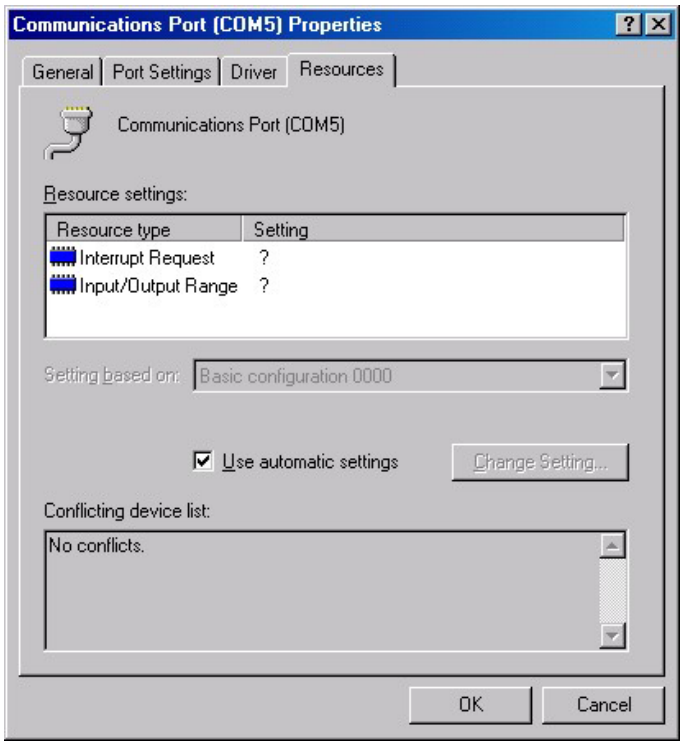
8. Also select “Next” in the following windows and “Finish” the installation.

9. TACLINK 3000 Cards will install and function correctly automatically. The SPTICM’s however will require the Operator to set the resources manually as described in the following steps.



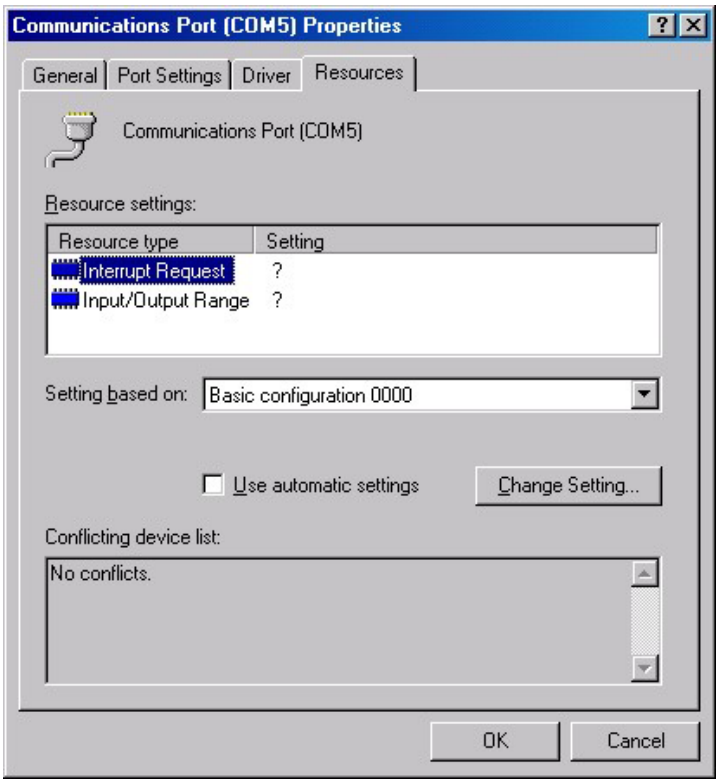
10. Select the Resource Tab and Select the “Set Configuration Manually” button.

11. The following window appears:

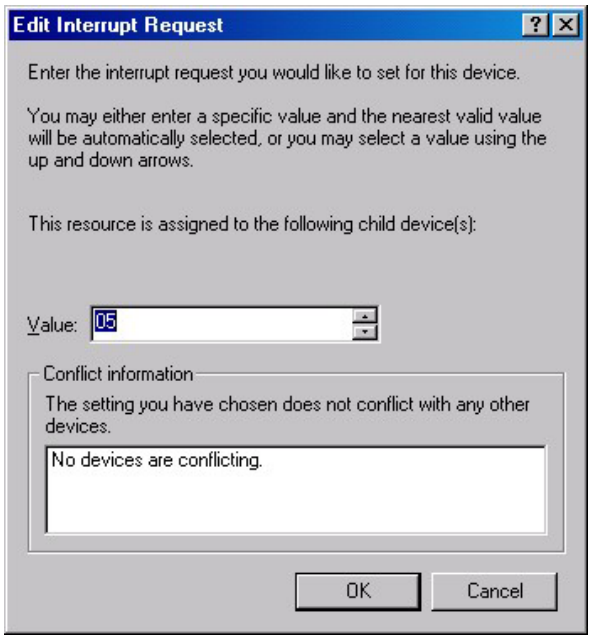


12. Operator must uncheck the “Use automatic settings” button to configure the device.

13. Highlight Interrupt Request and select Change Setting.



14. In the Edit Interrupt Request window change IRQ setting until it displays “No conflicts” in the Conflict window and OK out of the window.



15. Follow the same procedures for the Input/Output settings. Two recommended settings are:

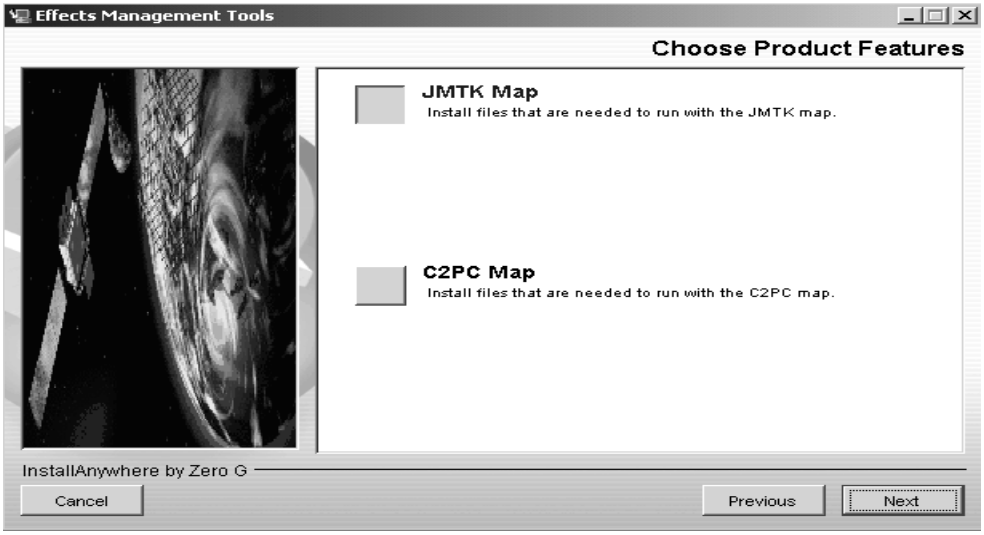
```
Interrupt = 05
I/O = 0058-005F

Interrupt = 03
I/O = 03E0-03E7
```

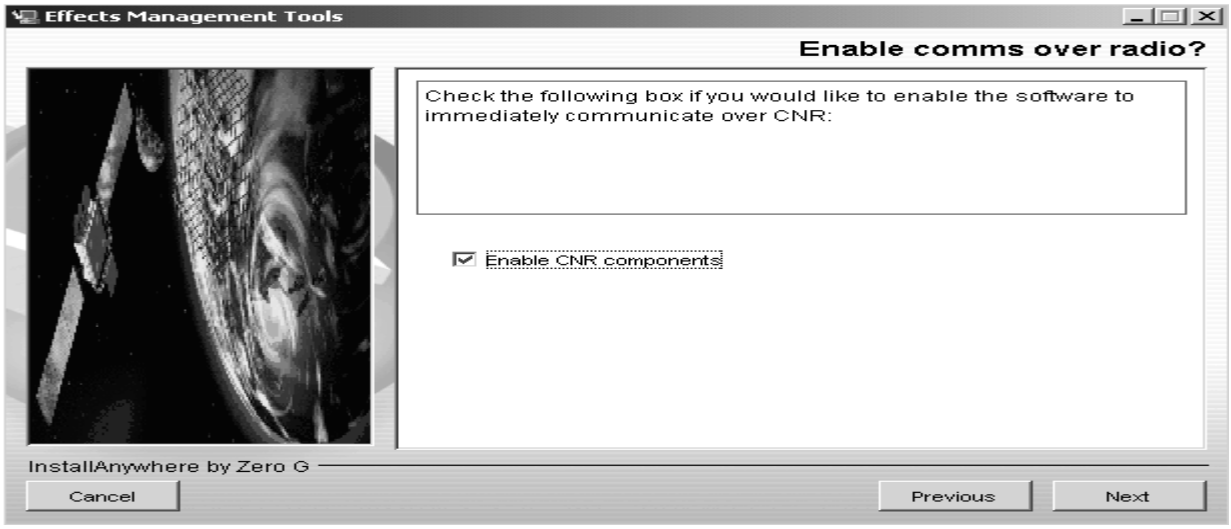
9.3 Installing and Configuring EMT-FST

Ensure that the conditions described in paragraph 9.0 are met before performing the following software installation and configuration.

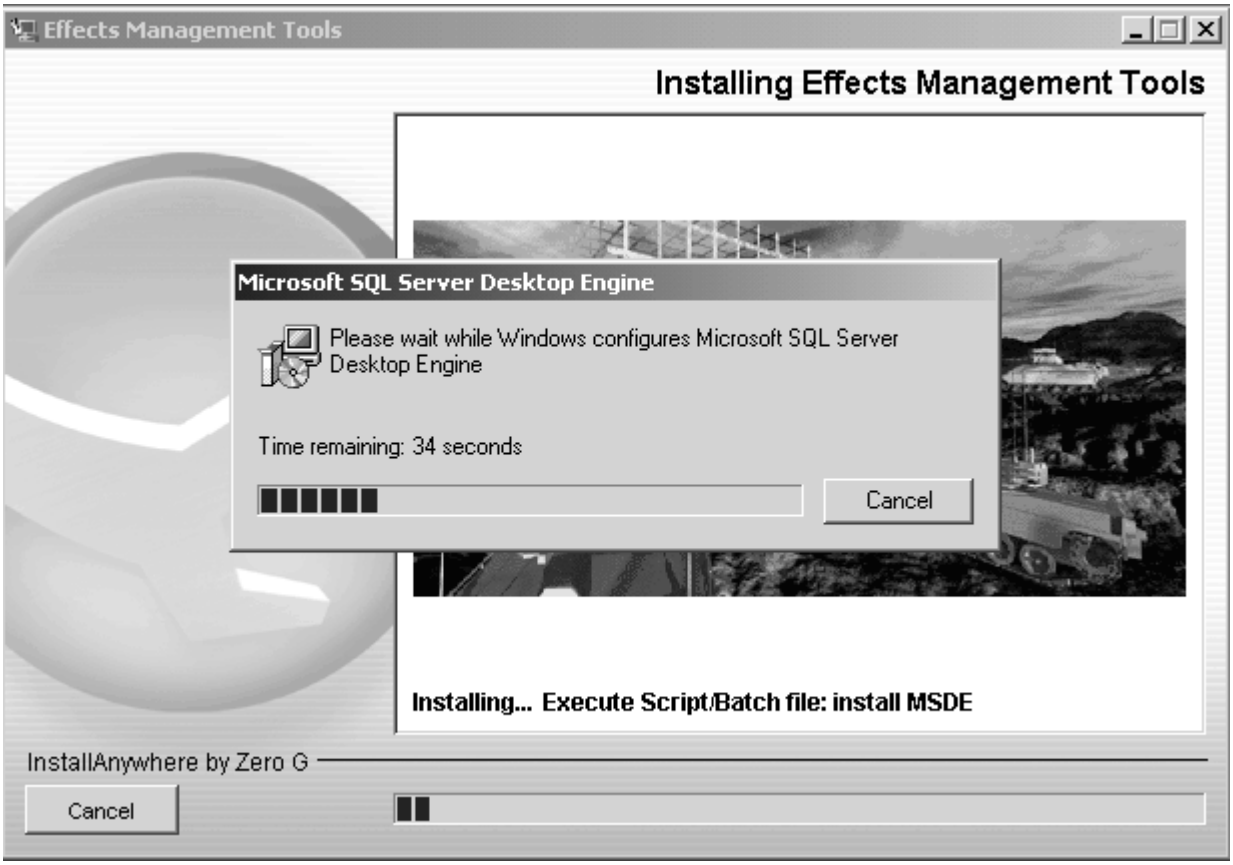
When asked to Choose Product Features, select JMTK Map if you do no intend to use C2PC. If C2PC is used select C2PC Map.



When the Install utility invites you to select the checkbox for Combat Net Radio (CNR), if you intend to use the computer in the EMT mode only, **DO NOT** select this checkbox, and if FST mode is to be used, go ahead and select the checkbox.



1. **EMT scans the operating system and determines what applications need to be installed, i.e. JMTK or Microsoft SQL Server.**



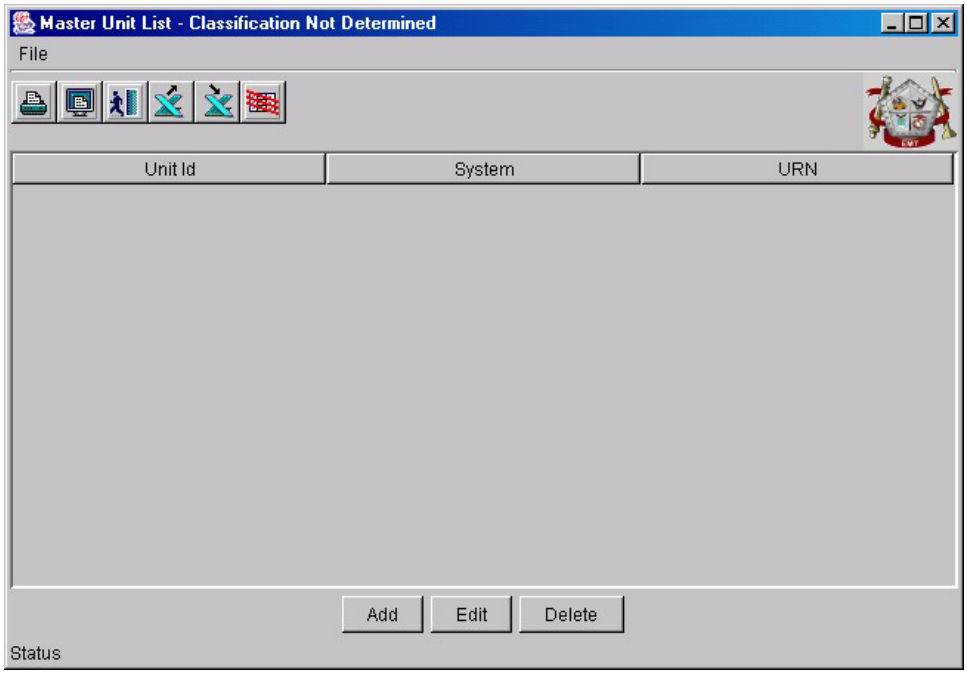
2. **If JMTK is being installed (never had EMT installed before) the install window will look as if it is stalled.**

3. **On the JMTK client laptop, to start the** FSCOORD Synch Tool (FST) **software, click** Start | Programs | EMT | FST with JMTK **or click the** FST **shortcut button**  **.**

   RESPONSE The **FSCOORD Sync Tool (FST)** software starts, this also starts the Comm Bridge processes, and the **FST with JMTK** window opens. **NOTE:** Do not close this window. If this window is closed the **FST Client** will also close.

   Minimize the **FST with JMTK** initial start window. Cancel or Minimize the **EMT Connection Management** window.

4. **From the Menu options, select Fire Support | Worksheets | Master Unit List (MUL).**



5. **Click on the**  **button to import the desired** Master Unit List (MUL) **in which to work from.**

6. **Using the** Look in: **field and the**  **button, drill down to the location of the desired** Master Unit List (MUL) Worksheet **to be imported. For now it'll be located in C:\Program Files\EMT\Templates it'll be called MUL_Sample.xls. Click the** Import **button. (The import could also come from a CD).**

RESPONSE The **Master Unit List (MUL)** begins to import.

7. **If Client FST Unit is not in the** Master Unit List (MUL)**, add the unit to the** MUL**, as follows: Click the** Add **button, Enter the** Unit ID **in the** Unit Id: **field. Enter the** System **type from the pulldown menu. Enter the** Unique Reference Number (URN)**. Click** OK. **To close the** Master Unit List (MUL) Worksheet**, click on the**  **button.**

   RESPONSE The **Add Unit** window opens and provides the operator with the fields necessary to create the Client FST Unit in the **MUL**. The **System** type will be **FST.**

   NOTE: This number MUST be unique from all other **URN's**. The **Add Unit** window closes and the unit is added to the **MUL.** The **Master Unit List (MUL) Worksheet** window closes.

   NOTE: While you have the MUL open verify that the AFATDS server is also listed in the MUL and that his URN is correct.

8. **Next, the Communications need to be setup to establish the connection to the Communications Bridge as well as identify the server in which the Client will connect. The Operator must first establish Communications over the LAN and obtain the server's database before transitioning to the Combat Net Radio Network.**

9. **From the** Menu **options, select** Fire Support | Managers | Communications. **Simultaneously, the** Communication Worksheet **window also opens and provides the operator with the fields necessary to create a communications channel and identify the client and server that will communicate.**

   RESPONSE: The **Comm Configuration** window opens and searches for any available channels that may be established. **The Operator must wait a few extra minutes for the SPTICM's to be available** (an alert will appear telling the operator that the TCIM's are available).

10. **First, identify the** Destination Unit **or the Server in which the FST Client will connect. Click the** Add **button. After choosing the desired** Destination Unit**, click the** OK **button.**

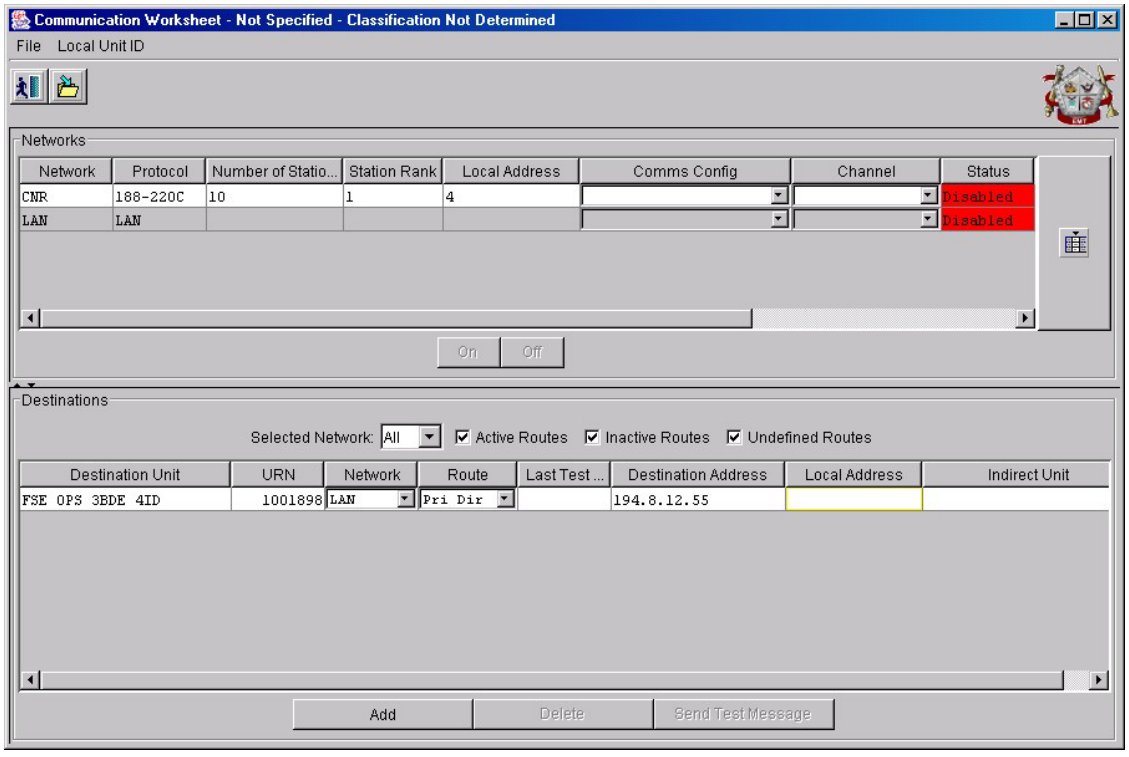
    RESPONSE: The **Destination Units** window opens and provides the operator with a list of available units from the **MUL** in which to choose the desired **Destination Unit.** The **Destination Units** window closes and the selected **Destination Unit** is entered in the **Destinations** section of the **Communication Worksheet** window.

11. **Next, click the** Network **pull down menu and choose the desired network in which to communicate with the** Destination Unit**. Next, double-click in the** Destination Address **field to activate the field to enter the destination address of the** Destination Unit**. Enter the** Destination Unit **IP address and then press the** ENTER **key on the keyboard to enter the data in the** Destination Address **field. To save the information that has been entered, click on the**  **button.**

    RESPONSE: The options will be **CNR** or **LAN**. **NOTE:** In the first example **LAN** will be used. The **Destination Unit** IP address is entered into the **Destination Address** field. The Operator must hit the "**Enter**" key after the address has been entered.

12. **Next, identify the** Local Unit ID. **From the** Menu **options, select the** Local Unit ID | Set Local Unit **option.**

    RESPONSE: The **Set Local Unit** window opens and provides the operator with the ability to select the **Local Unit ID**. **NOTE:** If only one FST unit is created in the **MUL** only one option will be available at the pull down menu, and will actually automatically populate the window.



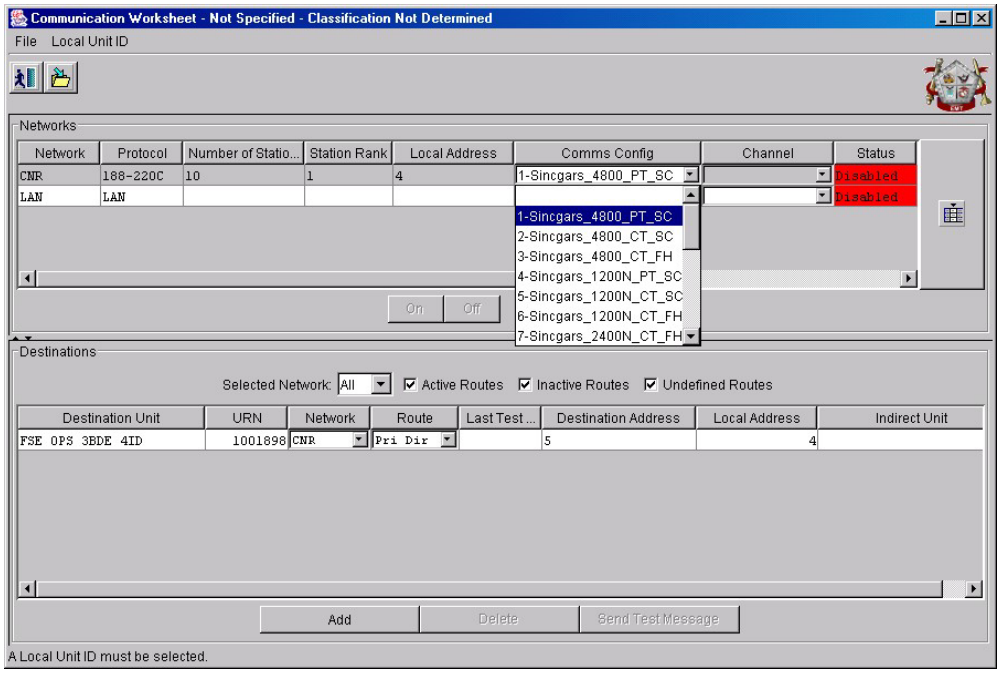
13. **Next, Click on the** LAN **channel and click the** On **button. The** Comm Configuration **window closes and the** Communication Worksheet **window indicates the status of the** LAN **Channel.**

    Close the Communication Worksheet **window by clicking on the**  **button.**

RESPONSE: The **Communication Worksheet** window closes.

14. In the Next example CNR **will be used. The** Destination Unit **188/220C address is entered into the** Destination Address **field (Only enter the last octet of the address). The Operator must hit the "**Enter**" key after the address has been entered.**

15. Next, identify the Communications Config that will be used via the CNR.



RESPONSE: The **Communications Config** pull down window opens allowing the Operator to select the desired **Communications Config**.

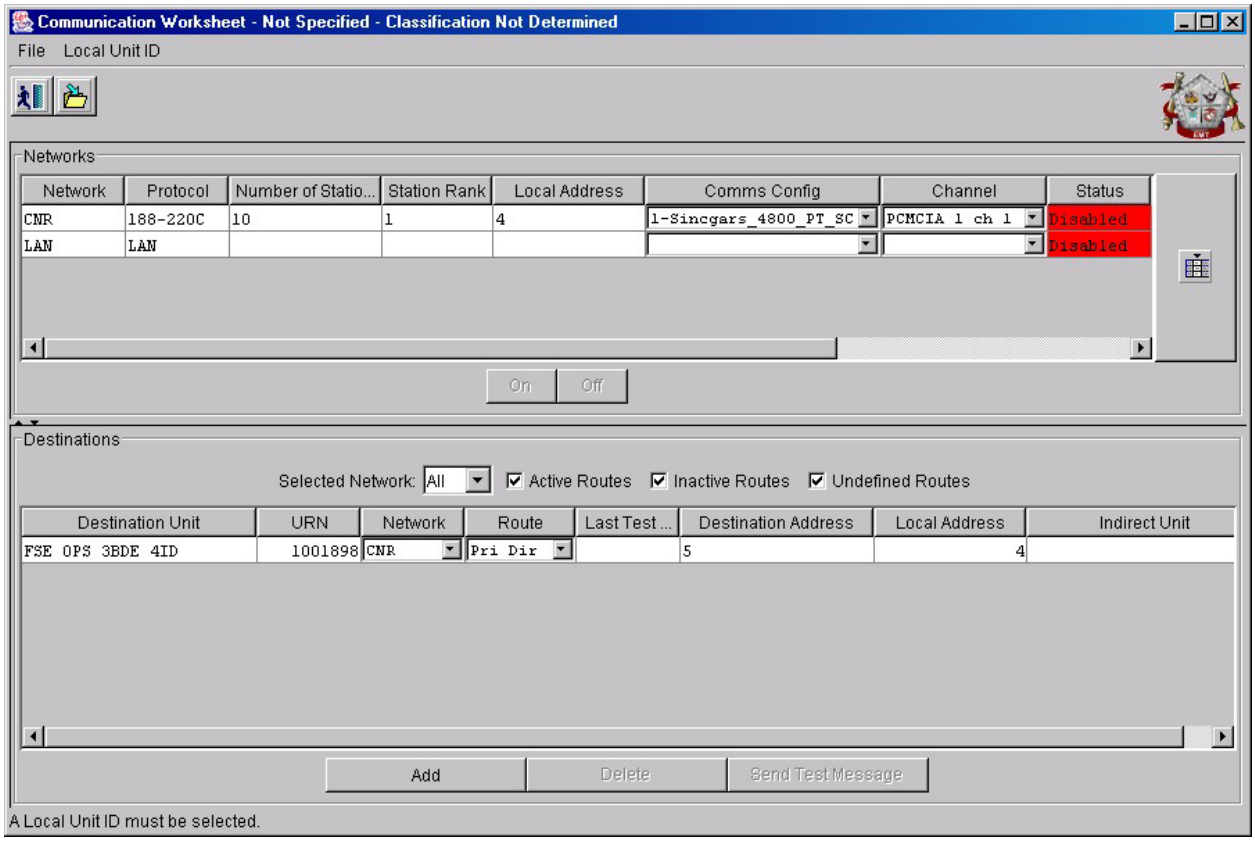
16. Next, identify what Channel will be used by the SPTICM.

RESPONSE: The Channel pull down opens allowing the Operator to select TCIM 1 channel 1 or TCIM 1 channel 2.

17. Next, identify the Local Unit ID. **From the** Menu **options, select the** Local Unit ID | Set Local Unit **option.**

RESPONSE: The **Set Local Unit** window opens and provides the operator with the ability to select the **Local Unit ID**. **NOTE:** If only one FST unit is created in the **MUL** only one

option will be available at the pull down menu, and will actually automatically populate the window.



18. Next, Click on the CNR **channel and click the** On **button. The** Comm Configuration **window closes and the** Communication Worksheet **window indicates the status of the** CNR **Channel. Close the** Communication Worksheet **window by clicking on the**  **button.**

RESPONSE: The **Communication Worksheet** window closes.

19. At AFATDS Server (Destination Unit Workstation)*:* **If the FST Client is not listed in the** Destination Unit MUL**, create the FST Client in the** MUL**. Next, enter the FST Client in the** Destination Unit Communication Workspace **window. Send a test message to the FST Client to ensure connectivity.**

RESPONSE: NOTE: If the FST Client requires creation, ensure the **URN** matches the **URN** entered in the FST Client **Master Unit List (MUL)**. **NOTE:** Ensure that the Communications Channel is turned on both the **Destination Unit** and **FST Client** workstations.

20. At FST Client Workstation*:* On the Communication Worksheet window, select the Destination Unit and click on the Send Test Message button.

RESPONSE: Verify that a **Success** is attained. **NOTE:** If a success is achieved **Success** will appear in green in the **Last Test Message** field of the **Destination** section of the **Communication Worksheet**.

21. If the EMT Connection Management **window was canceled, reopen the window by selecting** EMT Tools | Connection Management **from the** Menu **options. Otherwise, simply restore the minimized** EMT Connection Management **window. Select the** Work On-Line **radio button and click the** OK **button. Click the** User's Name **field and type the username. Click the** User's Password **field and type the password. The** Host **field is auto filled with the** Destination Unit **information previously provided in the** Communication Worksheet **window. As applicable, select the** User's Role**. Set the appropriate** User's Classification **of the AFATDS workstation. Click the** OK **button**

RESPONSE: The **EMT Connection Management** window either opens or is restored, as applicable. The **EMT Connection Management** window closes and the **Login Screen** window opens and provides the operator with the fields necessary to log into the **Destination Unit** (AFATDS Server). This **User Name** must be entered in the **Client/User Administration** window on the AFATDS Server just like a normal login. This **User Password** must be entered in the **Client/User Administration** window on the AFATDS Server just like a normal login.

22. Upon connection with the Destination Unit**, a** Creating a new database for <URN #> **window opens and displays the status to the operator of the progress made in creating the new database. When the progress indicator reaches 100% the** Creating a new database for <URN #> **window closes and the operator is given visual indication that the login to the AFATDS server was successful.**

RESPONSE: Settings for the **User's Role** can be set in the **Preference** table [**EMT Tools | Preferences**] to enable or disable specific features/functionality's for each designated user's role. **NOTE:** These roles are only specific to the client and have no direct correlation with the AFATDS user roles. A screen of changing pictures displays as data loads from the server to the client. A message is displayed at the bottom left hand corner of the window stating, "**Login in Progress, Please wait!** This message should change to **Login Successful!** After approximately one minute, and the screen will disappear. Several visual messages will appear in the lower right-hand corner of the screen indicating:

Successfully logged into server

Received 0 targets

Received 0 Units

Received 0 geometries

Received 0 ASLs

23. Now that a database has been created the database must be synchronized with the data on the Destination Unit **workstation. From the** Menu **options select** EMT Tools | Start Data Synch. **Following the** Initialization **process the** Synchronization Status (from Server <URN #>) **window will indicate how many of each category type will be received by the FST Client. The status indicator will progress to 100% as the data synchronization information is received at the FST Client. When the** Synchronization Status (from Server <URN #>) **window reaches 100% the window will indicate the data synchronization is complete. Click on the** Close **button. For large database synchronizations it can take some time for the information to be processed to the map…Please be patient!**

RESPONSE: The **Synchronization Status (from Server <URN #>)** window opens and provides the operator with visual indication of the progress of the data synchronization with the AFATDS server. The **Synchronization Status (from Server <URN #>)** window closes. The FST Client is now ready to be used with the synchronized data from the AFATDS server.

NOTE: Things happen much slower on FST than EMT. This applies to both the LAN connection and the Radio connection. It is not unusual to see a 3-5 minute delay for the request of new or updated data.

10.0 SERVICE BASED ARCHITECTURE (SBA) SOFTWARE NOTES

The Service Based Architecture (SBA) software module was added to the EMT software. This module is designed to display information from a Common Ground Station (CGS) directly to the JMTK map. SBA software is also capable of displaying live UAV video feeds, UAV information, and tracks information. The SBA software requires a LAN connection to a CGS that is configured to automatically publish data.

1. To start the CGS/SBA plug-in window, go to EMT Tools->Start SBA Tool. This will launch the SBA plug-in window. To stop the SBA plug-in, select File->Exit in the SBA window.
2. Note that there is no automated interaction between the SBA module and the EMT. You will not be able to select SBA icons and have access to the same menu options provided for EMT managed icons.
3. Be careful when using background display map overlays with SBA. The SBA program consumes substantial processing time, which will slow down JMTK and EMT processing. Changes to map scale or display area made while DTED or CIB maps are displayed and SBA software is running may take a long time (as much as two minutes) to process. Other EMT windows may also become “sluggish” when map updates are being processed. If background maps must be used, limit operations that require the map to re-center or change scale. You can speed up the map refresh rate by following the recommended procedure in Para 5 (Operator's Notes) Item 68.
4. The EMT classification level must be set to the same level as AFATDS server. If EMT login is attempted with the wrong classification level set, EMT will indicate that a “password error” has occurred.
5. When using SBA, it is recommended that the EMT system time be set to GMT (Greenwich Mean Time, i.e., Zulu Time) and not set to a local time zone. CGS Windows will display times in accordance with the local time zone setting, but this will be different from what is displayed at the server, where GMT is always used.
6. SBA operator preferences for length, size, label displays and other options are not retained if the client is restarted. These display preferences must be re-entered whenever the SBA client is restarted.
7. Configuring SBA for Unicast vs. Multi-Cast. Using Unicast means that SBA will only look for the operator entered CGS server. Multi-Cast allows the SBA to look for multiple CGS servers. Open the Windows Explorer and go to C:\openwings\NetConfig. Run the NetConfig (MS-Dos batch file) this will open the SBA Network Configuration window. The operator must know either the CGS IP address or Hostname. Select the Unicast tab, then the No radio button and enter either the CGS IP address or Hostname. Then select OK.
8. If there are no plugins from CGS in the AOI/SBA window then there is a configuration issue on the CGS box. The CGS operator must enter the EMT's IP address in his host table.

11.0 3.1.Z MC1/C2PC6.1.1P1 USER NOTES

11.1 Installation of C2PC Software

These instructions are based on a PC loaded with a Windows Operating System, and configured with an IP address that is compatible with IOS (i.e. the PC and IOS should be on the same subnet).

a. Insert the C2PC CD-ROM. The installation should start automatically.

b. Select "next" until you reach the license agreement. Accept all the license agreements. Continue selecting next. **On the Gateway Hostname window, your PC's machine address should be displayed.**

c. When the CJMTK confirmation is displayed, select "No"

d. During installation, if this message displays:

"Detected an install of CMP C2PC6.1.0.P1 requires CMP 4.7.0.3

Remove current COE message processor?"

Select **Yes.**

e. On the TDBM settings window, enter the appropriate UB version from the pulldown, and enter the IOS hostname (comms). If connected to the network, the IP address of the IOS should populate when "Resolve" is pressed.

f. At the Account Name window, enter the appropriate account name and passwords. The software installs. When completed remove the CD-ROM and select Finish to reboot your machine.

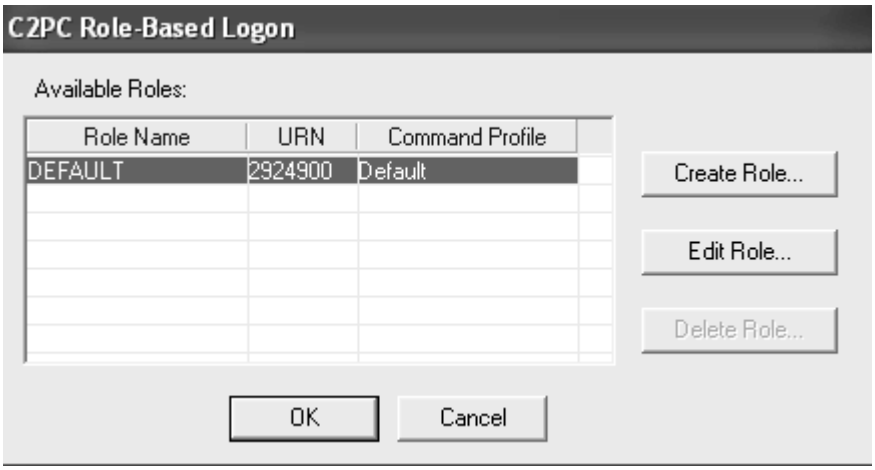
g. When you machine restarts, a message will display stating: Own Track Values Not Set, Add Own Track to address book. Ok this window. The address book entry instruction is explained

h. Insert the patch CD-ROM. The installation should start automatically.

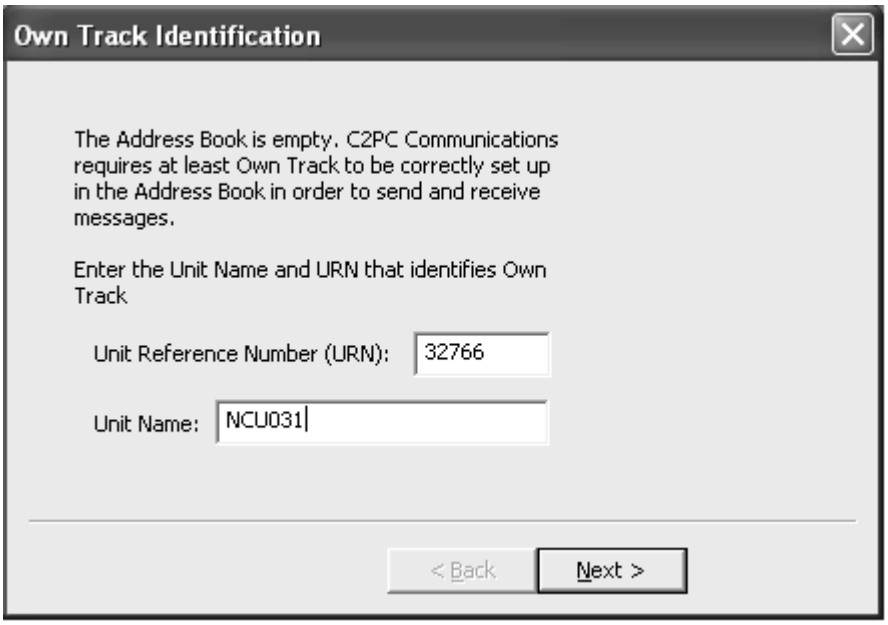
i. Select "next" until you reach the license agreement. Accept all license agreements. Continue to install. There should be no configuration changes to make when installing the patch. When completed remove the CD-ROM and restart your machine.

j. When you machine restarts, a message will display stating: Own Track Values Not Set, Add Own Track to address book. Ok this window.

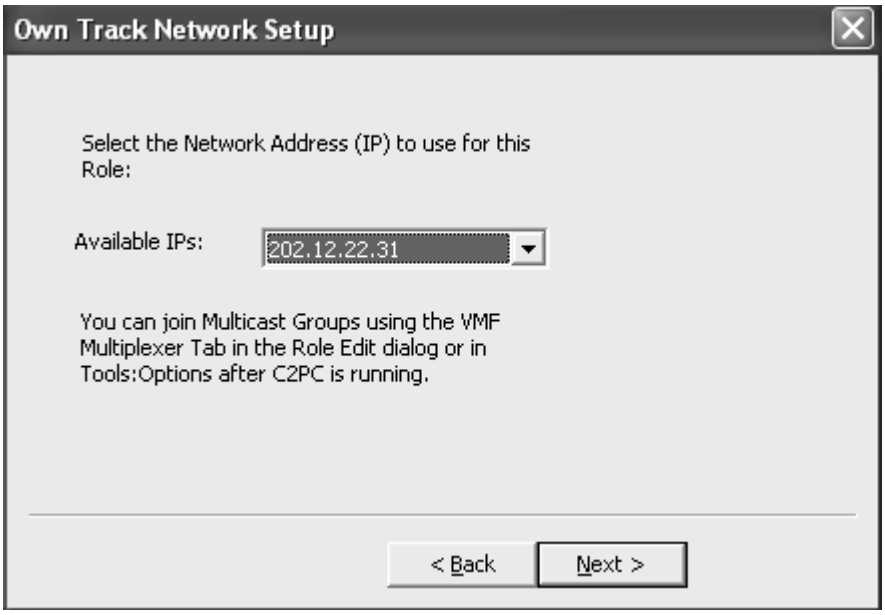
k. Select Start/Programs/C2PC/C2PC Client (Role Based Logon opens). Select Edit Role.



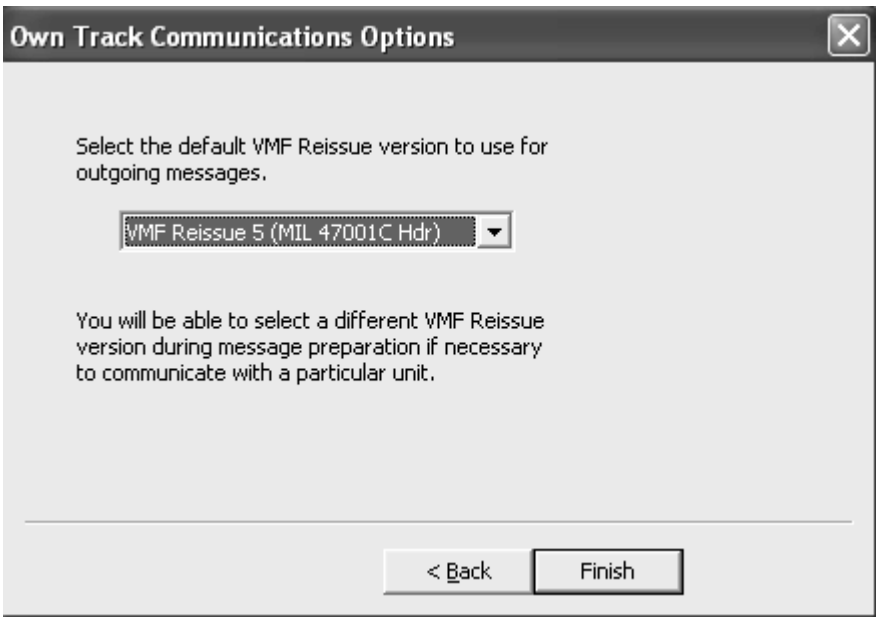
l. Input a URN for your box and unit name (example 32766 NCU025)



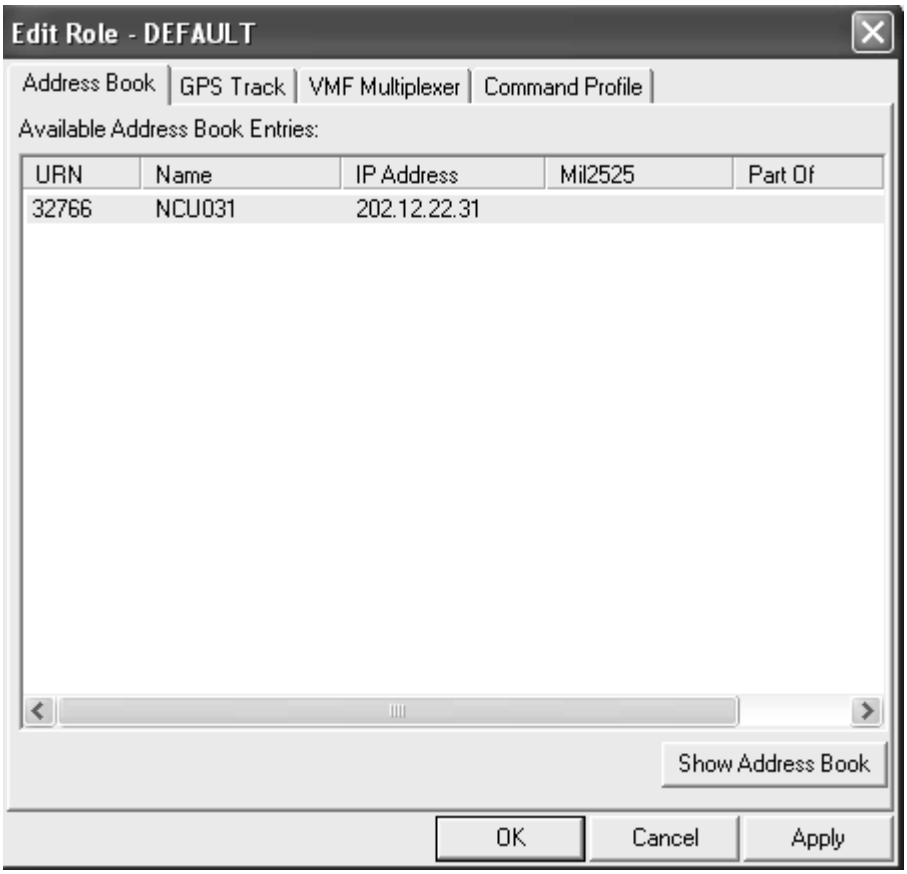
m. Your IP should display in Own Track Network Setup



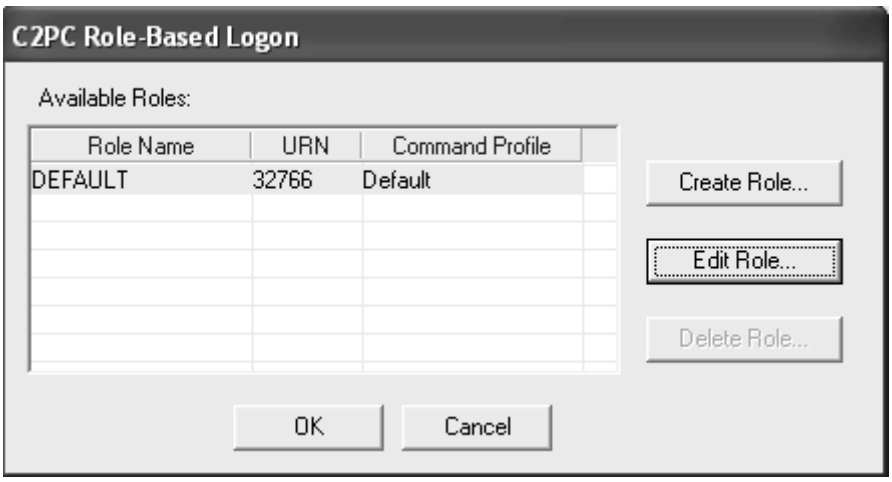
n. Own Track Communication Options window opens



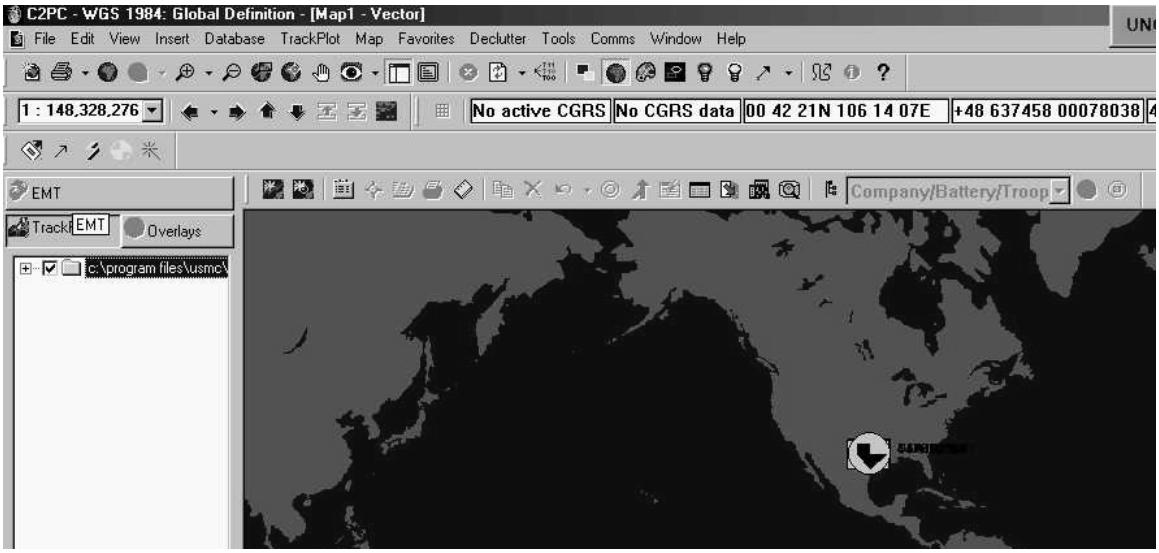
o. Select Finish. The Edit Role window opens. No changes should have to be made. Ok this window.



p. C2PC Role Based Logon window opens. Ok this window.

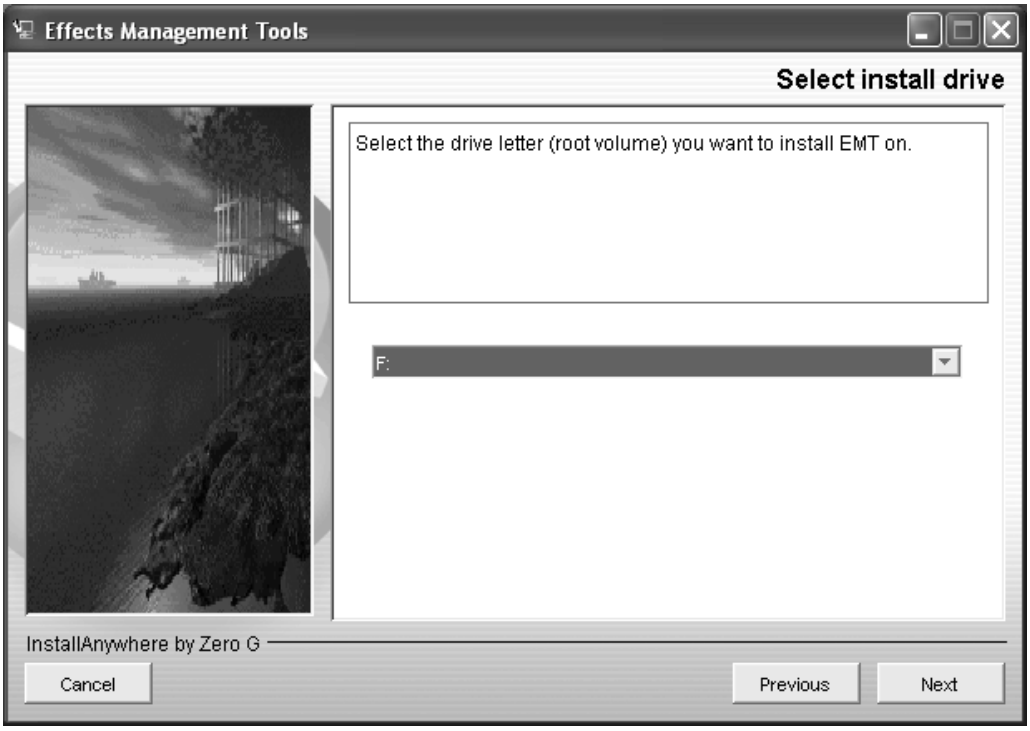


q. C2PC launches to Map 1-vector window. Select File Exit.

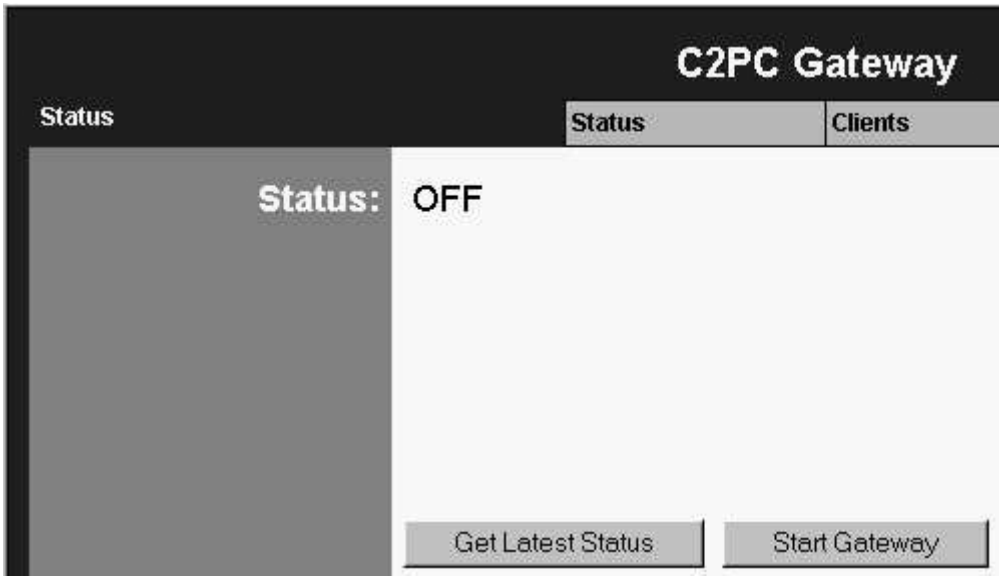


r. Proceed with the EMT installation.

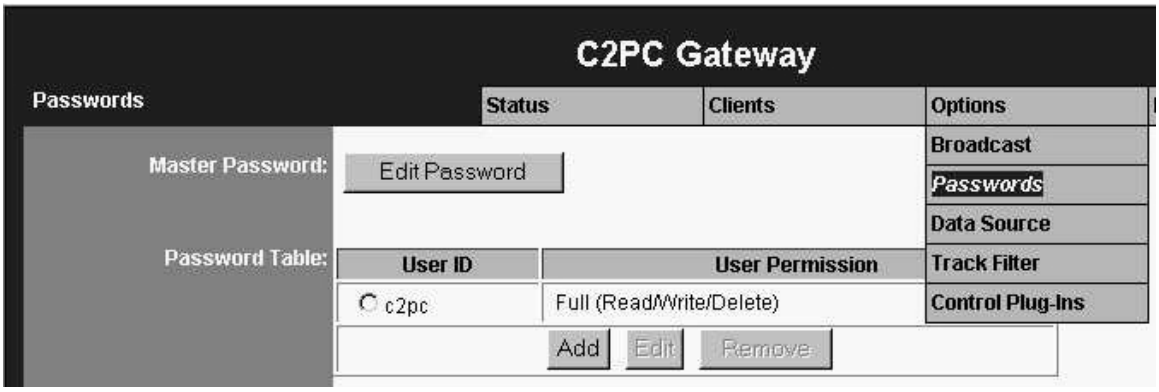
The EMT software now allows installation to a selectable destination drive under Win2K or WINXP. The following additional installation screen appears as the 2nd screen of EMT installation. The default installation drive path is C:. You may select any valid drive for installation of the software. If you select a non-existent drive, the computer will display an alert, directing you to select a valid drive.



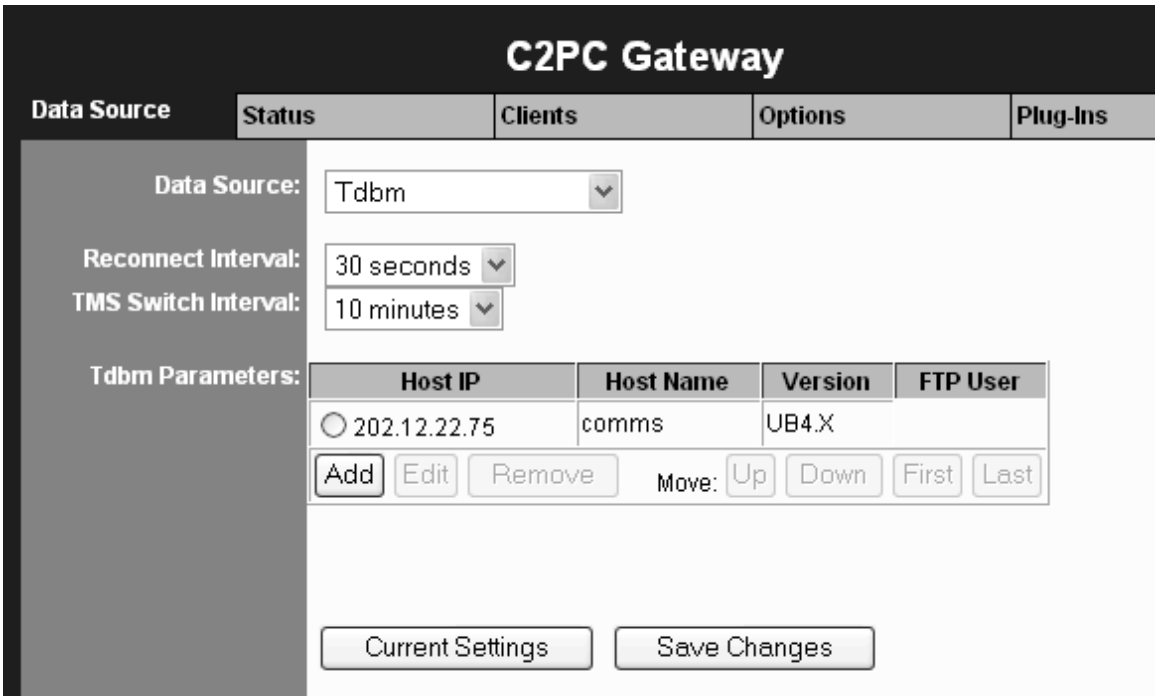
s. Select Start/Programs/C2PC/C2PC Gateway Manager. Select Start Gateway.



t. Select Options Passwords. Check the Read Only radio button and click the Remove button. Select the C2PC radio Button and click Edit. In the lower portion of the window next to Security, select the pulldown option for Full (Read/Write/Delete). Click Save Changes. Your window should look like the window below.

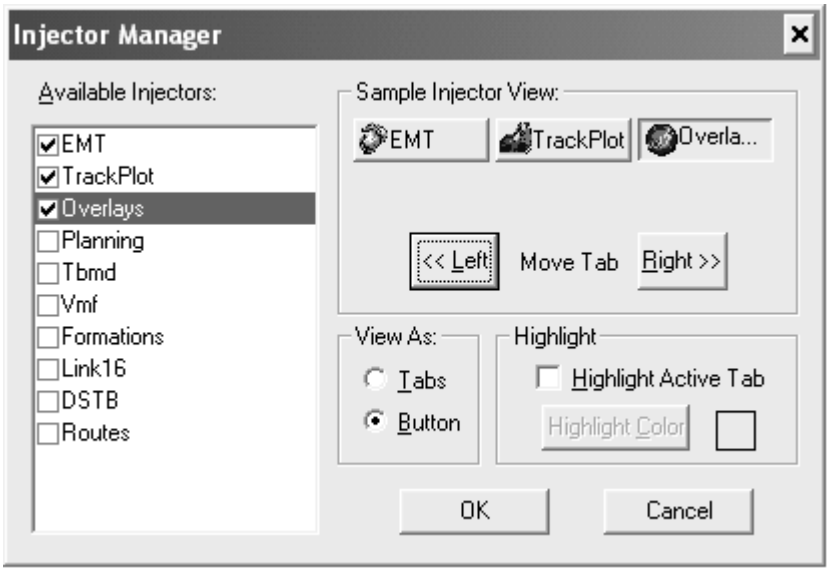


u. Select Option Data Source. The Host IP, Host Name and Version should have the same information input during the installation of C2PC. Select Save Changes.

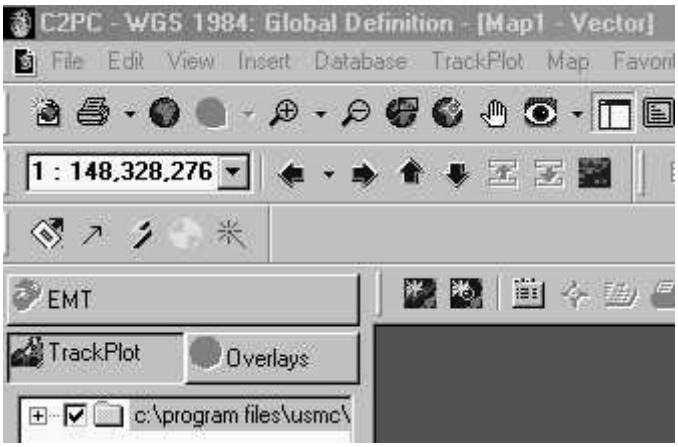


v. Start C2PC – Select Start/Programs/C2PC/C2PC Client. Ok the role based logon window. C2PC launches to Map 1-vector window

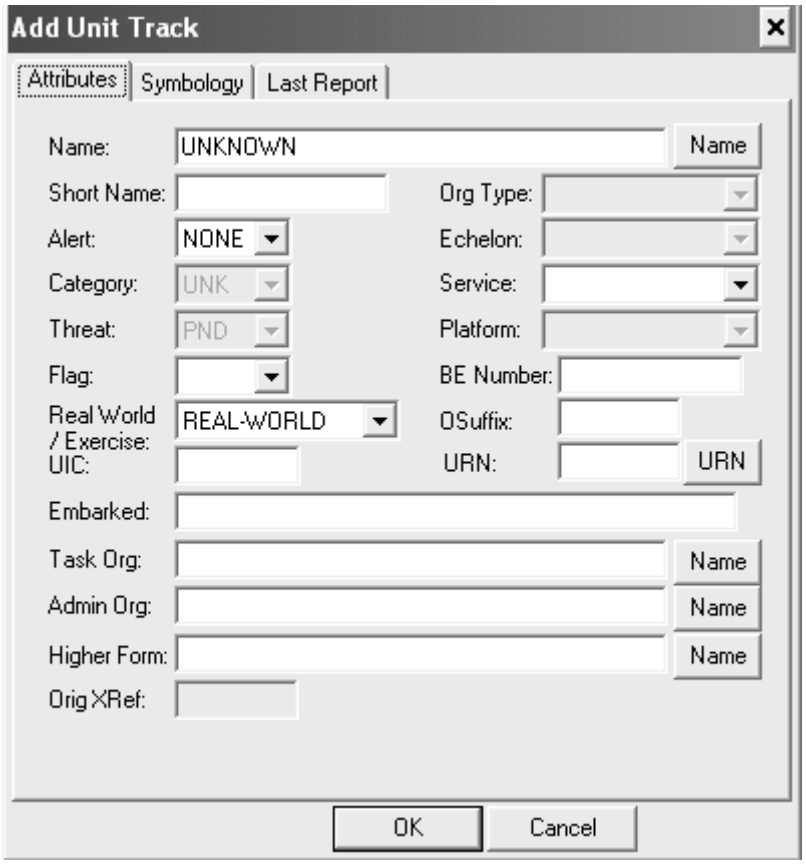
w. Select Tools/Injector Manager. The Injector Manager window opens. Deselect all but the EMT, Track Plot and Overlays injector insuring EMT is listed first. Ok the window.



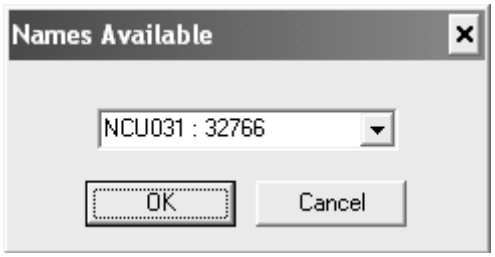
x. Select Tools/Track Plot. If there is no folder under the Track Plot injector proceed to Insert/Quick Track. Select a location on the map to plot your unit.



y. The Add Unit Track window opens. The Add Unit Track window allows the user to define the symbol further by selecting the Symbology and the Last Report tab.

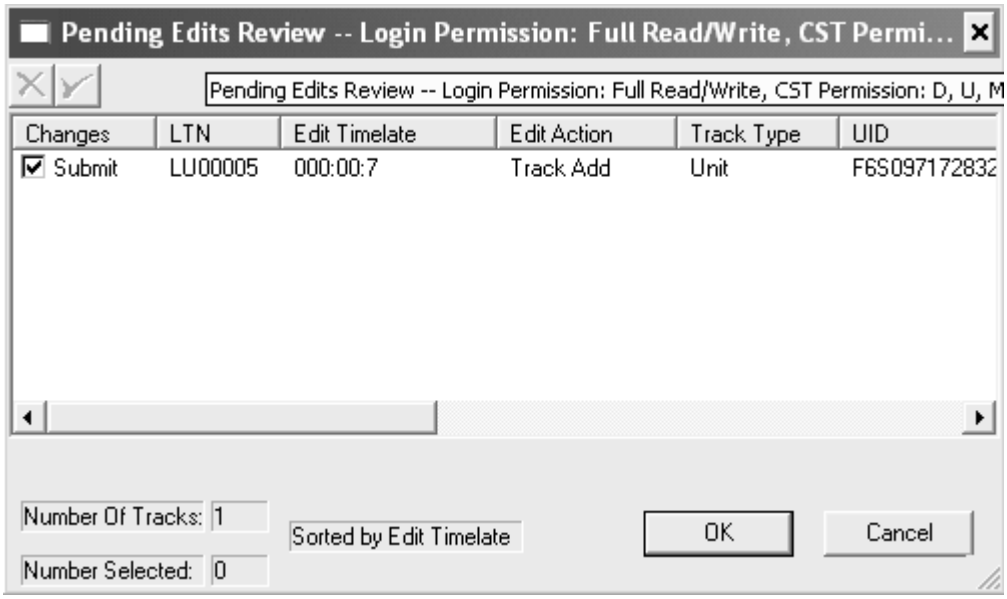


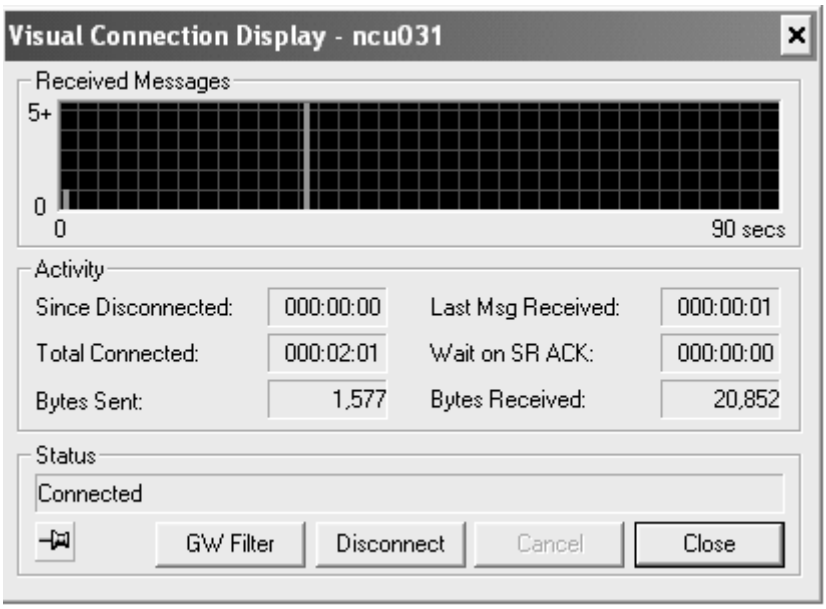
z. Select the Name button and accept the Names Available. OK the window. A folder should display under the Track Plot injector.



aa. Select Track Plot/Connect to Gateway. The Gateway login displays. Ok this window.

ab. Two windows may open, the Pending Edits review, displaying your unit information created above and the visual connection window. Ok the Pending Edits window and Close the Visual Connection window.





ac. Click the EMT injector tab and proceed with normal EMT startup.

11.2 Starting EMT

Step	Action	Result
1.	Start C2PC Gateway	
a.	Click **Start, Programs, C2PC, C2PC Gateway Manager**	Browser starts with **C2PC Gateway**
b.	Click the **Start Gateway** button	Connection status displays.
2.	Start C2PC	
a.	Click **Start, Programs, C2PC, C2PC Client**	C2PC window with map displays.
3.	Start EMT	
a.	***Click*** *Tools, EMT*	EMT tab is added to directory tree and **EMT Connection Management** window displays.
b.	***On*** *EMT Connection Management* ***window, ensure*** *Work On-Line* ***is selected.***	

Step	Action	Result
c.	***On** EMT Connection Management **window, click the** OK **button.***	The **Login Screen** displays.
d.	***Type the following:*** User's Name **User's Password** **Host** **User's Classification**	User's Name = **Client Name** in AFATDS **Client/User Administration** window User's Password = **Password** established in AFATDS **Client/User Administration** window Host = AFATDS Server IP address on the LAN network C2PC uses. User's Classification = security level of AFATDS server
e.	***Click the** OK **button***	Wait for connection status to turn green. IF the **Trackplot** tab has not been displayed, units will appear then disappear as they are created as tracks. To display the tracks, click **Tools, Trackplot**

11.3 Operations

a. Send overlays to AFATDS as geometry.

Step	Action	Result
1.	Create or receive an overlay in C2PC.	
2.	Click the Overlay tab.	The tree displays overlays.
3.	Expand the AFATDS folder.	The tree displays **Incoming** and **Outgoing** folders
4.	Locate the C2PC overlay in the tree.	
5.	Click on the C2PC overlay or any measures in the overlay.	The names highlight.
6.	Left-click and drag the overlay to the AFATDS folder Incoming file.	The names of the measures are added to the **Incoming** file; the **Incoming** file name updates with an asterisks (**Incoming***).
7.	Right-click on the Incoming* file name.	A pop-up menu displays.
8.	Click on Save Incoming	Overlay items are sent to AFATDS as geometry; any overlay item missing the URN of the establishing unit is held in the EMT **Geometry**

Step	Action	Result
		Worksheet for operator action.
9.	Correct any incomplete geometry.	
a.	Click the EMT tab.	The tree updates to EMT data.
b.	Click Fire Support, Worksheets, Geometries…	The **Geometry Worksheet** displays.
c.	Click the Incomplete tab.	All incomplete geometry is displayed. Missing data displayed with red fields.
d.	The EMT operator may edit the incomplete geometry or delete the geometry.	
1)	Edit the incomplete geometry.	Double-click on the geometry. Enter the missing data.
2)	When editing is complete, click the Send to AFATDS icon.	The geometry is sent to the AFATDS server; the geometry is removed from the **Incomplete** tab at EMT.

b. Delete All Or Part Of An Overlays Previously Sent To AFATDS As Geometry.

Step	Action	Result
1.	Click the **Overlay** tab.	The tree displays overlays.
2.	Expand the **AFATDS** folder.	The tree displays **Incoming** and **Outgoing** folders
3.	Expand the **Incoming** folder	All overlay measures previously sent to AFATDS are listed.
4.	Click on those items to be deleted.	The names highlight; the **Incoming** file name updates with an asterisks (**Incoming***).
5.	Right-click on the **Incoming*** file name.	A pop-up menu displays.
6.	Click on **Save Incoming**	AFATDS geometries corresponding to those items removed are deleted.

c. Send AFATDS geometry to IOS

Step	Action	Result
1.	Click the **Overlay** tab.	The tree displays overlays.
2.	Expand the **AFATDS** folder.	The tree displays **Incoming** and **Outgoing** folders
3.	Expand the **Outgoing** folder.	Sub-folders **Battle Areas**, **Boundaries**, **FSCMS & Target Areas**, **Movement**, **NBC**, **Sensor Zones** and **Situation** display.
4.	Select the desired sub-folder.	The sub-folder name highlights.
5.	Right-click on the sub-folder name.	A pop-up menu displays.
7.	Click on **Export *(sub-folder name)***	

d. Overlay Rules

(1) The following overlay measure fields translate to AFATDS data:

C2PC Field	AFATDS Translation
Symbology tab, Affiliation	
None Specified	Enemy Geometry
Pending	Enemy Geometry
Unknown	Enemy Geometry
Assumed Friendly	Friendly Geometry
Neutral	Friendly Geometry
Faker	Enemy Geometry
Joker	Enemy Geometry
Suspect	Enemy Geometry
Symbology tab, URN	Establishing Unit ID
Times Tab, Start DTG	Effective Time
Times Tab, End DTG	Expiration DTG

(2) Saving a blank incoming file deletes all C2PC geometry at AFATDS.

e. EMT Display Preferences are:

(1) Are always applied to targets and geometries.

(2) Are applied to units only when the EMT is operated in the offline mode.

The EMT toolbar:

(1) Always filters geometry, targets, ASR'S and firing vectors.

(2) Filters units only when EMT is operated in the offline mode.

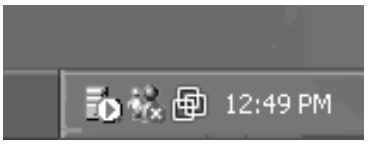
f. Viewing/Editing Units with EMT in the On-Line mode.

(1) To view track data associated with a unit/track, double-click the track on the map.

(2) To view or edit AFATDS data, select the unit in the EMT tab's tree, right-click and select **View/Edit.**

g. Uninstall.

After uninstalling EMT with FST, Microsoft SQL windows service remains installed. This appears as a file cabinet in the tool bar with a green right-arrow:



To uninstall this service, as Administrator, choose Add/Remove programs from the Control Panel, Select "Microsoft SQL Server Desktop Engine (FST2)" and click the remove button:

h. Known problem.

When the user installs C2PC6.1.1 P1 on a WIN 2K laptop, installs EMT, and tries to run the EMT injector, track plot linking does not occur. That is, track data does not appear on the C2PC map, and does not appear in the Trackplot Tab.

This problem does NOT occur on a Windows XP laptop.

The problem occurs because one of the library files needed by WIN2K is in an unexpected location. If you must run C2PC on a On Win2K laptop, find and copy the following file: `msvcp71.dll`. Copy this file to the \winnt\system32\ directory. (You will probably need system administrator privileges to do this.) Once the copy is complete, reboot the laptop, restart C2PC and activate the EMT injector. C2PC and EMT should now behave normally.